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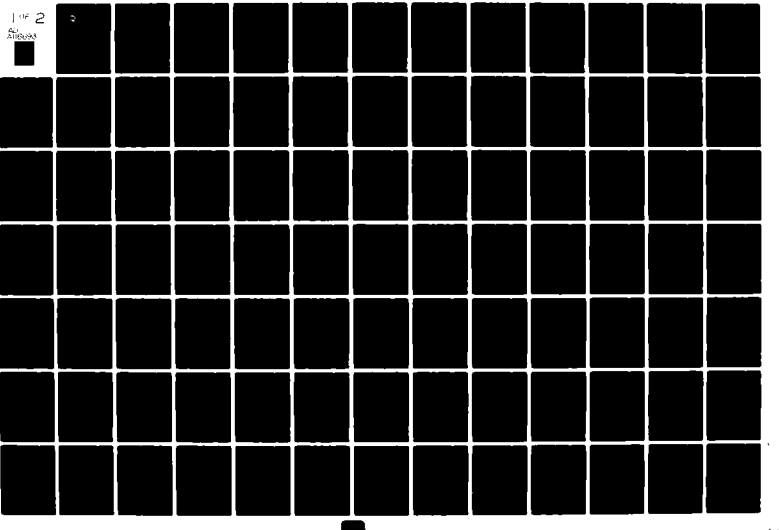

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No. 52

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20. ABSTRACT

This is the Soviet Laser Bibliography for March-April 1981, and is No. 52 in a continuing series on Soviet laser developments. The coverage includes basic research on solid state, liquid, gas, and chemical lasers; components; nonlinear optics; spectroscopy of laser materials; ultrashort pulse generation; crystal growing; theoretical aspects of advanced lasers; and general laser theory. Laser applications are listed under biological effects; communications; beam propagation; computer technology; holography; laser-induced chemical reactions; measurement of laser parameters; laser measurement applications; laser-excited optical effects; laser spectroscopy; beam-target interaction; and plasma generation and diagnostics.

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Introduction

This bibliography has been compiled under an interagency agreement as a continuing effort to document current Soviet-bloc developments in the quantum electronics field. The period covered is March-April 1981, and includes all significant laser-related articles received by us in that interval. The bulk of the entries come from the approximately 30 periodical- which are known to publish the most significant findings in Soviet laser Technology. Citations from the Russian Reference Journals are also included. Laser items from the popular or semipopular press are generally omitted.

For convenience we have abbreviated frequently cited source names; a source abbreviations list and an author index are included. All sources cited witn no parenthetical notation are available at the Library of Congress. A parenthetical entry (RZh, KL) indicates the secondary source in which the citation was found as a bibliographic entry or abstract, but for which the original source is not currently available at the Library. The authors' affiliations are indicated by the numbers in parentheses following the authors' names in the text and are listed in the Author Affiliations List. New affiliations are assigned a new number and are added to a cumulative list which includes all affiliations from 1969 to the present. Only those affiliations which appear in this issue are listed in this issue's Author Affiliations List.

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I. BASIC RESEARCH

A. SOLID STATE LASERS

1. Crystal: Ruby

1. Grigoryan, M.M., A.S. Nikogosyan, and P.S. Pogosyan (37). Scattering of a train of picosecond pulses by randomly distributed impurities in ruby. IAN Arm, no. 3, 1981, 219-221.

2. Zalyubovskiy, I.I., N.A. Kulagin, L.A. Litvinov, and L.P. Podus (34). Change in the valence of chromium ions during gamma irradiation of ruby. FTT, no. 3, 1981, 846-849.

2. Crystal: Rare-Earth Activated

a. Nd^{3+}

3. Balakireva, T.P., Ch.M. Briskina, V.V. Vakulyuk, Ye.V. Vasil'yev, V.F. Zolin, A.A. Mayyer, V.M. Markushev, V.A. Murashov, and M.V. Provotorov (15,178,161). Luminescence and stimulated emission from $BaGd_{2-x}Nd_x(MoO_4)_4$ single crystals. KE, no. 3, 1981, 656-660.

4. Buchenkov, V.A., Yu.N. Mikhaylov, L.N. Soms, A.I. Stepanov, and A.M. Fisher (0). Study on the dynamics of a thermal field during transient operation of a solid state laser. ZhPS, v. 34, no. 3, 1981, 410-415.

5. Grigor'yants, V.V., M.Ye. Zhabotinskiy, and V.M. Markushev (15). Determining the effective cross-section for stimulated emission from neodymium ions in various matrices by a luminescent cut-off method. KE, no. 3, 1981, 571-575.

6. Gudyalis, V.V., S.P. Dagis, Ye.P. Yeremeyeva, V.M. Ovchinnikov, and Yu-Yu.Yu. Slavenas (0). Relaxation time for passive Q-switches in neodymium lasers. ZhTF P, no. 7, 1981, 394-396.

7. Kubecek, V. (NS). Continuously pumped YAG:Nd lasers. JMO, no. 11, 1980, 317-318.

8. Lyubimov, V.V., and L.V. Nosova (0). Optimizing laser amplifiers with spatial filtering. Part 3. Evaluating the capabilities of laser amplifiers. KE, no. 4, 1981, 708-714.

9. Makovetskiy, A.A. (15). Lasing kinetics of lasers pumped by short pulses. KE, no. 3, 1981, 519-527.

10. Pak, S.K., V.N. Parygin, A.I. Portnyagin, and S.K. Sobolev (2). Static characteristics of polarization modulation of c-w YAG:Nd^{3+} laser radiation. KE, no. 3, 1981, 528-533.

b. Miscellaneous Rare Earth

11. Kaminskiy, A.A., A.G. Petrosyan, and V.A. Fedorov (13,59). Cross-cascade stimulated emission from Er^{3+}, Ho^{3+} and Tm^{3+} ions in $Er_3Al_5O_{12}$. DAN SSSR, v. 257, no. 1, 1981, 79-82.

3. Crystal: Miscellaneous

12. Agabekyan, A.S. (0). Energy transfer during strong incoherent interactions. ZhPS, v. 34, no. 4, 1981, 707-711.

13. Ayvazyan, Yu.M., L.I. Bubnova, N.A. Ivanov, A.N. Kolerov, B.D. Lobanov, V.M. Khulugurov, and A.G. Shneyder (140). Problems in preparing active media for LiF color center lasers. Sb 1, 11-15. (RZhF, 3/81, 3D1234)

14. Batenin, V.M., A.L. Golger, and I.I. Klimovskiy (74). Feasibility of producing a solar pumped laser based on crystals with color centers. KE, no. 3, 1981, 634-636.

15. Bebikh, L.G., N.N. Chudinova, G.D. Dudko, R.S. Shevelevich, and B.N. Litvin (18). Production and properties of solid solutions in a BiP_5O_{14}-NdP_5O_{14} system. NM, no. 4, 1981, 744-747.

16. Grechushnikov, B.N. (13). Optical properties of crystals. Sb 2, 338-424.

17. Gusev, Yu.L., A.V. Kirpichnikov, S.N. Konoplin, and S.I. Marennikov (0). Lasers using F centers in LiF and NaF crystals. Sb 3, 5-15. (RZhF, 4/81, 4D1198)

18. Jelinkova, H. (NS). Pulsed lasers. JMO, no. 11, 1980, 314-316. (RZhF, 3/81, 3D1231)

19. Khulugurov, V.M., N.A. Ivanov, L.N. Sinitsa, and V.I. Serdyukov (0). Quasi c-w lasing from $F_2^+O^{--}$ centers in an LiF crystal. OiS, v. 50, no. 4, 1981, 801-802.

20. Lisitsyn, V.N., Ye.V. Pestryakov, V.I. Trunov, and Yu.L. Gusev (159). Generating picosecond pulses from F_2^- color centers in the 1.1 - 1.25 μm range. ZhTF P, no. 7, 1981, 396-399.

21. Nikitenko, V.A., A.I. Tereshchenko, I.P. Kuz'mina, and A.N. Lobachev (0). Stimulated emission in ZnO under high-level single photon pumping. OiS, v. 50, no. 3, 1981, 605-607.

22. Petrov, M.V., A.M. Tkachuk, and P.P. Feofilov (0). Multifrequency and cascade lasing from Ho^{3+} and Er^{3+} ions in $LiYF_4$ crystals and the suppression of stimulated afterglow from Ho^{3+} ions. IAN Fiz, no. 3, 1981, 654-658.

23. Volkov, S.Yu., B.N. Grechushnikov, B.K. Sevast'yanov, and V.B. Tsvetkov (13). Sapphire coolant channel for obtaining modest cryogenic temperatures. PTE, no. 2, 1981, 251-253.

4. Semiconductor: Simple Junction

a. CdS

24. Kozlovskiy, V.I., A.S. Nasibov, and P.V. Reznikov (1). Effect of dislocations on the characteristics of CdS laser screens. KE, no. 4, 1981, 745-750.

b. InSb

25. Gavrilov, V.P., Ye.V. Pestryakov, and S.A. Fedorov (0). C-w magnetically tunable spin-flip laser. Sb 3, 103-108. (RZhF, 4/81, 4D1219)

c. ZnSe

26. Baltrameyunas, R.A., A.A. Gladyshchuk, V.P. Gribkovskiy, E.P. Kuokshtis, and G.P. Yablonskiy (3,49). Luminescence and lasing in ZnSe single crystals under single and two-photon excitation. KE, no. 4, 1981, 898-901.

5. Semiconductor: Mixed Junction

6. Semiconductor: Heterojunction

27. Bazhenov, V.Yu., A.P. Bogatov, P.G. Yeliseyev, O.G. Okhotnikov, G.T. Pak, M.P. Rakhval'skiy, M.S. Soskin, V.B. Taranenko, and K.A. Khayretdinov (1). Bistable operation and tuning of an injection laser with an external dispersing resonator. KE, no. 4, 1981, 853-859.

28. Goldobin, I.S., V.D. Kurnosov, V.N. Luk'yanov, G.T. Pak, A.T. Semenov, N.V. Shelkov, S.D. Yakubovich, and I.V. Yashumov (141). Bistable c-w injection heterolaser. KE, no. 4, 1981, 880-882.

29. Nakwaski, W. (NS). Using the Kirchhoff transform to solve the nonlinear thermal conduction equation for a laser diode. Opt app, no. 3, 1980, 281-283. (RZhF, 2/81, 3D1240)

7. Semiconductor: Theory

30. Arushanov, E.K., L.L. Kulyuk, A.N. Nateprov, S.I. Radautsan, and A.A. Shtanov (44). Study on stimulated emission in cadmium phosphide. FTP, no. 3, 1981, 585-588.

31. Levanyuk, A.P., and V.V. Osipov (0). Edge luminescence from direct band-gap semiconductors. UFN, v. 133, no. 3, 1981, 427-477.

32. Semiletov, S.A. (13). Semiconductor crystals. Sb 2, 292-314.

8. Glass: Nd

33. Alekseyev, V.N., Ye.G. Bordachev, N.V. Kuz'mina, A.N. Zhilin, N.N. Rozanov, V.A. Smirnov, A.D. Starikov, and V.N. Chernov (0). Limiting the intensity of the output beam from a laser amplifier with spatial filters and terminal disk amplifier stages. IAN Fiz, no. 3, 1981, 659-662.

34. Barna, S., L. Dollingher, S. Georgescu, and M. Isbasescu (NS). The Romanian-made LR-19 laser glass. SCF, no. 7, 1980, 793-812. (RZhF, 3/81, 3D1229)

35. Denker, B.I., V.V. Osiko, P.P. Pashinin, and A.M. Prokhorov (1). Concentrated neodymium laser glass. KE, no. 3, 1981, 469-483.

36. Mit'kin, V.M. (0). Lasing characteristics of thermal-processed active elements. KE, no. 3, 1981, 484-489.

37. Ponyayev, A.I., M.N. Tolstoy, and V.N. Shapovalov (7). Effect of temperature on the spectral width of emission from a neodymium glass laser. OMP, no. 3, 1981, 15-17.

38. Vlasov, S.N., and V.Ye. Yashin (0). Suppression of self-focusing in neodymium glass laser systems using retranslators. KE, no. 3, 1981, 510-518.

39. Yershov, B.V., S.B. Kravtsov, M.A. Otlivanchik, Yu.P. Pimenov, and V.A. Spiridonov (1). Optimizing the length of the pump pulse in an Nd glass laser operating in a Q-switched mode. KE, no. 4, 1981, 878-880.

9. Glass: Miscellaneous

40. Murzin, A.G., and V.A. Fromzel' (0). Threshold coefficients of gain in Yb^{3+} and Er^{3+} ion activated glasses under laser pumping. KE, no. 3, 1981, 495-503.

B. LIQUID LASERS

1. Organic Dyes

a. Rhodamine

41. Akopyan, R.S., R.B. Alaverdyan, Dzh.Kh. Grigoryan, and Yu.S. Chilingaryan (37). Liquid crystal - dye system at a thermodynamic phase transition region. IAN Arm, no. 1, 1981, 77-81.

42. Lebedev, V.V., and V.M. Plyasulya (0). Single-frequency lasing in a pulsed dye laser without a Fabry-Perot standard. Sb 3, 68-72. (RZhF, 4/81, 4D1178)

43. Lebedev, V.V., and V.M. Plyasulya (0). Single-frequency tunable pulsed dye laser with a diffraction grating. OiS, v. 50, no. 4, 1981, 744-749.

44. Smirnov, V.S. (0). Lasing from flashlamp-pumped dye solutions in a three mirror resonator. ZhPS, v. 34, no. 3, 1981, 420-423.

45. Yuzhakov, V.I., and N.V. Abrosimova (2). Luminescent rhodamine 6G molecular associates in polar mixtures of nonpolar solvents. ZhFKh, no. 3, 1981, 630-634.

b. Miscellaneous Dyes

46. Beterov, I.M., L.S. Vasilenko, M.I. Zakharov, A.V. Shishayev, and B.Ya. Yurshin (0). Study on the radiation properties of a c-w dye laser. Sb 3, 48-67. (RZhF, 4/81, 4D1179)

47. Klochkov, V.P. (0). Broadening of vibrational bands in the spectra of complex organic molecules. ZhPS, v. 34, no. 3, 1981, 389-399.

48. Mak, A.A., Yu.T. Mikhaylov, and V.V. Ryl'kov (7). Study on laser photochemistry of dye solutions using an optically induced electro-conductivity method. OMP, no. 3, 1981, 20-22.

49. Tomin, V.I. (0). Third All-Union Conference on Complex Organic Compound Lasers and Their Applications, Uzhgorod, 10-12 Sep 1980. ZhPS, v. 34, no. 3, 1981, 562-566.

50. Yaroshenko, O.I., and K.I. Rudik (192). Tensor model of optical gain anisotropy in dye solutions. KE, no. 3, 1981, 584-589.

51. Zaal, G.J. (0). Design considerations of synchronously pumped dye lasers. Sb 4, 336. (RZhRadiot, 3/81, 3Ye102)

2. Inorganic Liquids

C. GAS LASERS

1. Simple Mixtures

a. He-Ne

52. Gelikonov, V.M. (426). Effect of a nonlinear absorbing medium on the parameters of radiation from a laser with a periodically varying optical length. KE, no. 3, 1981, 538-545.

53. Kartaleva, S.S., V.Y. Stefanov, and L.Y. Chillag (0). Self-selection of longitudinal modes at 632.8 nm in a helium-neon laser with a copper hollow cathode. ZhPS, v. 34, no. 4, 1981, 727-729.

54. Mazan'ko, I.P., M.I. Molchanov, Ye.A. Petrukhin, A.F. Savushkin, and N.G. Yaroshenko (0). Measuring spontaneous frequency fluctuations in 3.39 μm laser radiation. RiE, no. 4, 1981, 793-796.

55. Ristici, M., A.I. Ciura, and T. Tudor (NS). Longitudinal mode-locking in an He-Ne laser by nonlinear absorption in neon. Sb 5, 37-42. (RZhF, 3/81, 3D1281)

56. Saprykin, E.G. (0). Controlling the lasing spectrum of gas lasers without selective elements in the resonator. JMO, no. 10, 1980, 288-289. (RZhF, 3/81, 3D1284)

57. Zhitnikov, R.A., V.A. Kartoshkin, G.V. Klement'yev, and V.D. Mel'nikov (4). Study on the transfer of excitation in an $He(2^3S_1)+Ne(2^1S_0)$ system using an optical atomic orientation method. ZhETF, v. 80, no. 3, 1981, 992-998.

2. Molecular Beam and Ion

a. CO_2

58. Alexandrescu, R., N. Comaniciu, V. Draganescu, D. Dumitras, and D. Dutu (NS). Determining the Stark constant in the modulation of a CO_2 laser by molecular gases. SCF, no. 7, 1980, 661-664. (RZhF, 3/81, 3D617)

59. Antyukhov, V.V., A.F. Glova, O.R. Kachurin, and F.V. Lebedev (23). Periodic pulsed waveguide CO_2 laser with axial capacitive discharge pumping. KE, no. 4, 1981, 904-906.

60. Artamonov, A.V., and V.A. Konev (23). Study on the characteristics of the active medium of a mixing fast-flow CO_2 laser and their effect on the radiation parameters. Institut atomnoy energii. Preprint, no. 3336/12, 1980, 24 p. (RZhF, 4/81, 4D1137)

61. Avtonomov, V.P., M.V. Zavertyayev, V.N. Ochkin, N.N. Sobolev, and Yu.V. Troitskiy (1). Emission spectrum of a CO_2 laser with a diffraction selector in the resonator. KE, no. 3, 1981, 576-583.

62. Bazarov, Ye.N., G.A. Gerasimov, V.P. Gubin, and N.I. Starostin (0). CO_2 laser frequency stabilization using sharp resonance in OsO_4. Part 2. IVUZ Radioelektr, no. 3, 1981, 79-83.

63. Borisova, N.A., V.V. Breyev, B.Ya. Lyubimov, V.G. Niz'yev, and O.I. Pechenova (23). Wave processes in gas paths with a periodic pulsed energy contribution. Institut atomnoy energii. Preprint, no. 3349/16, 1980, 25 p. (RZhF, 4/81, 4D1136)

64. Gadiyak, G.V., K.A. Nasyrov, A.M. Orishich, and A.G. Ponomarenko (193). Formation of a high-power pulse in an amplifying system. KE, no. 3, 1981, 504-509.

65. Grigor'yants, V.V., M.Ye. Zhabotinskiy, B.A. Kuzyakov, and L.A. Ryabova (15). Measuring the parameters of saturation and loss at 10.6 μm in a waveguide tube formed from metal with a highly reflective coating. KE, no. 3, 1981, 645-647.

66. Kononov, O.A., and N.S. Leshenyuk (3). Study on the temperature dependence of intramolecular energy transfer in $C^{16}O^{18}O$. DAN B, no. 3, 1981, 209-212.

67. Koterov, V.N., I.N. Sidorov, and A.V. Shipilin (337). Two-dimensional model of the active volume of a c-w electroionization CO_2 laser. Design methods and realization. Vychislitel'nyy tsentr AN SSSR. Soobshcheniya po prikladnoy matematike. Moskva, 1981, 62 p.

68. Kuz'min, Yu.F., V.V. Makarov, and V.I. Yudin (0). Study on the parameters of an electromagnetically excited gas laser. Sb 6, 112-116. (RZhF, 4/81, 4D1133)

69. Kuzyakov, B.A., and V.F. Khor'kov (0). Small-scale single-mode CO_2 laser. RiE, no. 3, 1981, 610-616.

70. Orishich, A.M., A.G. Ponomarenko, and V.N. Snytnikov (0). Effect of a cathode layer on the volt-ampere characteristics of an e-beam pumped discharge. ZhPMTF, no. 2, 1981, 37-43.

71. Yur'yev, M.S. (0). Electric field distribution in an e-beam sustained self-terminating discharge in a mixture of CO_2:N_2:He:O_2 gases. ZhTF, no. 4, 1981, 726-730.

72. Zhabotinskiy, M.Ye., and B.A. Kuzyakov (15). Measuring the lifetime of the CO_2 00°1 vibrational level in a waveguide laser. KE, no. 4, 1981, 793-798.

b. CO

73. Avtonomov, V.P., V.N. Ochkin, N.N. Sobolev, and Yu.B. Udalov (1). Intensity modulation, stabilization, and frequency tuning of a CO laser using an intracavity Stark cell. KE, no. 4, 1981, 882-888.

c. Argon

74. Bakinovskiy, K.N., G.N. Baranov, and G.V. Sharonov (334). Subnanosecond optical pulse generator using an argon ion laser. PTE, no. 2, 1981, 185-187.

75. Berndt, K., K. Junge, and E. Klose (0). High-frequency modulation of Ar ion laser radiation due to stable two-mode oscillation. Sb 4, 161. (RZhRadiot, 4/81, 4Ye73)

d. N_2

76. Arakelyan, V.S., A.A. Avetisyan, V.G. Atabekyan, V.M. Mkhitaryan, and V.V. Pakhlavuni (264). Compact nitrogen laser with high peak power. PTE, no. 2, 1981, 187-188.

77. Konovalov, V.P., and E.Ye. Son (118). Electron energy distribution function in an e-beam controlled discharge. ZhTF, no. 3, 1981, 547-554.

e. I_2

78. Matogin, Yu.A., and G.N. Ustinov (0). C-w optically-pumped tunable I_2 laser. Sb 3, 83-96. (RZhF, 4/81, 4D1171)

f. H_2O

79. Arakelyan, G.A., A.Zh. Petrosyan, and M.L. Petrosyan (0). Pulsed water-vapor laser. IAN Arm, no. 6, 1980, 458-461. (RZhRadiot, 4/81, 4Ye42)

g. Submillimeter

80. Manita, O.F. (0). Pulsed submillimeter lasers with oscillator-amplifier type optical pumping. Sb 7, 31-37.

h. Metal Vapor

81. Bespalov, O.G., S.T. Latushkin, A.I. Nastyukha, and L.I. Yudin (0). Pulse generator as a power source for a copper vapor laser. PTE, no. 2, 1981, 126-128.

82. Cone, G.F., C.P. Cristescu, I.M. Popescu, and A.M. Preda (NS). Magnetic field rotation of the polarization plane of the radiation emitted by an He-Cd hollow cathode laser. RRP, no. 6, 1980, 623-625. (RZhF, 4/81, 4D1125)

83. Grevtsev, N. (0). The laser today. Sovetskiy soyuz, no. 1, 1981, 20-22.

84. Isakov, I.M., A.G. Leonov, Yu.V. Petrushevich, and A.N. Starostin (118). Study on lasing and discharge characteristics in dense copper vapors. ZhTF, no. 3, 1981, 525-532.

85. Isakov, I.M., A.G. Leonov, and A.N. Starostin (118). Copper vapor laser with an e-beam pumped discharge. ZhTF P, no. 7, 1981, 427-430.

86. Klimkin, V.M., V.Ye. Prokop'yev, and V.G. Sokovikov (75). Study of the lasing power at IR ytterbium lines as a function of the pumping pulse repetition rate. KE, no. 4, 1981, 722-725.

87. Mikhalevskiy, V.S., G.N. Tolmachev, and V.Ya. Khasilev (0). Lasing characteristics and excitation levels in an He-Se discharge. ZhPS, v. 34, no. 4, 1981, 623-625.

88. Yeliyev, V.F., A.N. Soldatov, and G.B. Sukhanova (0). Determining the electron temperature in the luminescence of a copper vapor laser. TVT, no. 2, 1981, 426-428.

89. Yepremyan, V.B., I.G. Ivanov, S.V. Prozorov, and M.F. Sem (325). C-w gas laser based on a helium-selenium mixture. PTE, no. 2, 1981, 259.

i. Gasdynamic

90. Akatnov, N.I., and A.V. Lavrov (0). Turbulent mixing of relaxing gases in a supersonic nozzle. MZhiG, no. 2, 1981, 156-160.

91. Anan'yevskiy, M.G., Ye.T. Antropov, V.T. Karpukhin, Yu.B. Konev, L.I. Danilov, M.V. Polikovskiy, A.Ye. Sheyndlin, and Ye.M. Shelkov (74). Possible metallurgic application of a gasdynamic laser with a high-temperature regenerative heat exchanger for warming the operating medium. TVT, no. 2, 1981, 391-394.

92. Bakanov, D.G., A.I. Odintsov, and A.I. Fedoseyev (0). Gain saturation in a moving active medium. ZhPS, v. 34, no. 4, 1981, 630-634.

93. Bartoszek, C., and M. Syczewski (NS). Using the energy and combustion products of a solid fuel in a gasdynamic laser. BWAT, no. 10, 1980, 129-136. (RZhF, 4/81, 4D1152)

94. Biryukov, A.S., R.I. Serikov, and A.M. Starik (1). Vibrational energy exchange in systems with optical feedback. Fizicheskiy institut AN SSSR. Preprint, no. 118, 1980, 16 p. (RZhF, 4/81, 4D1149)

95. Biryukov, A.S., N.A. Konoplev, and V.A. Shcheglov (1). Energy capabilities for a three frequency periodic pulsed gasdynamic CO_2 laser. ZhTF P, no. 8, 1981, 482-487.

96. Bogacheva, S.P., I.I. Borisov, V.P. Kubaychuk, and V.A. Reysig (422). Calculating the optimal parameters of a sodium vapor plasmadynamic laser. Sb 7, 24-31.

97. Breyev, V.V., N.A. Borisova, A.V. Gubarev, S.A. Laptev, A.A. Nekrasov, and O.I. Pechenova (23). Analyzing the processes and methods for a numerical study on nonstationary gas flows in a periodic pulsed gas-discharge laser. Institut atomnoy energii. Preprint, no. 3343/16, 1980, 20 p. (RZhMekh, 3/81, 3B472)

98. Goryachev, S.B., G.V. Abrosimov, V.A. Akimov, M.A. Grigor'yev, V.I. Karchevskiy, A.A. Kiselev, M.Yu. Orlov, I.L. Poluektova, F.G. Rutberg, A.N. Savostin, V.N. Semenov, Yu.V. Suslov, B.A. Tikhonov, and V.F. Sharkov (23). The Ts2P gasdynamic CO_2 laser experimental device with gas heating in a three-phase plasmatron. Institut atomnoy energii. Preprint, no. 3320/7, 1980, 39 p. (RZhF, 4/81, 4G337)

99. Shmelev, V.M., and A.D. Margolin (67). Gasdynamic CO laser with an active medium containing hydrogen. KE, no. 4, 1981, 812-819.

100. Yevtyukhin, N.V. (67). Effect of thermal emission in a wall on the thermodynamic parameters of an active medium upstream of a nozzle with $S_T << 1$. TVT, no. 2, 1981, 441-442.

3. Excimer

101. Losev, V.F. (0). Energy and time characteristics of an e-beam pumped XeCl laser. Sb 8, 7-10. (RZhF, 4/81, 4D1176)

102. Lyutskanov, V.L., and I.V. Tomov (NS). Compact 1-megawatt fast discharge XeCl laser. Bolgarskiy fizicheskiy zhurnal, no. 4, 1980, 439-442.

103. Malinin, A.N., A.K. Shuaibov, and V.S. Shevera (0). Determining the quenching constants for single halides of mercury in a discharge. ZhPS, v. 34, no. 4, 1981, 752-754.

104. Nenko, K.K., V.L. Lyutskanov, and S.B. Dimitrov (NS). Control and power supply of an excimer laser. Elektropromishlennosti i priborostroenie, no. 8, 1980, 300-301. (RZhRadiot, 4/81, 4Ye52)

4. Theory

105. Alferov, G.N., and V.I. Donin (10). Method of producing a gas laser active medium. Otkr izobr, no. 6, 1981, 698464.

106. Baklanov, Ye.V., and Ye.A. Titov (159). Intensity of linear resonant absorption by atoms trapped in an anharmonic potential. KE, no. 3, 1981, 546-554.

107. Fayfer, S.I., S.M. Zhdanov, A.P. Korzhavyy, N.N. Kunets, A.A. Zuboleyev, Yu.V. Demidenkov, and E.P. Proleyko (0). Gas laser with a cold cathode. Otkr izobr, no. 12, 1981, 421308.

108. Ishchenko, V.N., S.A. Kochubey, V.N. Lisitsyn, and P.L. Chapovskiy (0). Pulsed gas laser sources of frequency-tunable radiation. Sb 3, 21-47. (RZhF, 4/81, 4D1112)

109. Popov, L.N. B.N. Poyzner, and A.V. Voytsekhovskiy (47). Adjusting a gas laser without the use of photodetectors. PTE, no. 2, 1981, 242-244.

110. Yeletskiy, A.V., and N.P. Zaretskiy (0). Evolution of a sharp peak in the vibrational distribution of diatomic molecules. KE, no. 3, 1981, 640-643.

D. CHEMICAL LASERS

1. F_2+H_2(D_2)

111. Pecherskiy, Yu.Ya. (0). C-w line-tunable chemical HF laser. Sb 3, 97-102. (RZhF, 4/81, 4D1155)

112. Stepanov, A.A., V.L. Shikanov, and V.A. Shcheglov (1). Numerical analysis of a self-contained, chain-reaction c-w HF-HCl chemical laser using a mixture of F-H_2-ClF-He. KE, no. 4, 1981, 765-773.

113. Zhuravlev, S.F., V.G. Karel'skiy, Yu.I. Kozlov, V.K. Orlov, A.K. Piskunov, Yu.V. Romanenko, and Yu.I. Shcherbakov (0). Electric discharge HF chemical laser with a high repetition rate. KE, no. 4, 1981, 907-910.

2. Photodissociative

114. Likhanskiy, V.V., and A.P. Napartovich (23). Development of small scale inhomogeneities in photodissociation lasers. KE, no. 3, 1981, 637-639.

115. Zalesskiy, V.Yu., L.S. Yershov, A.M. Kokushkin, and S.S. Polikarpov (0). C-w lasing from a photodissociation iodine laser. KE, no. 4, 1981, 830-837.

3. Transfer

4. CS_2+O_2

116. Dudkin, V.A., and A.Yu. Kedrov (17). Using a sulfur flame to increase the power in a carbon disulfide CO chemical laser. ZhTF P, no. 8, 1981, 463-466.

5. Miscellaneous

117. Bashkin, A.S., N.M. Gorshunov, Yu.A. Kunin, Yu.P. Neshchimenko, A.N. Orayevskiy, and N.N. Yuryshev (1). Chemical method for obtaining atomic hydrogen or deuterium to trigger a c-w chemical laser. Fizicheskiy institut AN SSSR. Preprint, no. 201, 1980, 33 p. (RZhF, 4/81, 4D1153)

E. COMPONENTS

1. Resonators

a. Design and Performance

118. Boytsov, V.F. (12). Diffractional decoupling of opposed waves in a ring resonator with spherical mirrors. Leningradskiy universitet. Vestnik, no. 16, 1980, 28-33. (RZhF, 3/81, 3D1267)

119. Kravchenko, V.I., N.D. Milovskiy, and L.L. Popova (5,94). Ring laser with an active amplitude gate. Sb 7, 3-12.

120. Milovskiy, N.D., and L.L. Popova (94). Optimal conditions for a ring laser with an amplitude gate. Sb 7, 12-23.

121. Milovskiy, N.D., and L.L. Popova (94). Some lasing characteristics of a ring laser with an amplitude gate. IVUZ Radiofiz, no. 4, 1981, 425-432.

b. Mode Kinetics

122. Birman, A.Ya., A.F. Savushkin, and Ye.N. Tropkin (0). Diffraction separation of opposed wave frequencies in a ring laser with two-scale amplitude correction. OiS, v. 50, no. 4, 1981, 750-754.

123. Gudkov, Yu.P. (0). Nonlinear separation of longitudinal oscillations in a laser with distributed losses. Part 2. OiS, v. 50, no. 3, 1981, 532-540.

124. Lugovoy, V.N. (1). Possibility of "tunnel" mode locking for lasers. KE, no. 4, 1981, 888-891.

2. Pump Sources

125. Abas-Ogly, Ya.R., S.A. Aboyan, G.V. Abrosimov, V.A. Andrianov, V.V. Vasil'tsov, B.I. Semykin, A.M. Shilin, and V.N. Shulakov (0). Copper halide laser with vacuum tube and thyratron pumping. KE, no. 3, 1981, 648-650.

126. Abdullin, E.N., G.P. Bazhenov, S.P. Bugayev, and O.B. Ladyzhenskiy (466). Generating millisecond e-beams by explosive electron emission. ZhTF P, no. 6, 1981, 347-350.

127. Basov, Yu.G. (0). Characteristics of coaxial flashlamps. ZhPS, v. 34, no. 4, 1981, 581-597.

128. Boyko, B.B., V.V. Valyavko, A.A. Mozgo, N.S. Petrov, and A.K. Soyka (3). Optimizing the shape of the current pulse in laser flashlamps. IAN B, no. 2, 1981, 60-64.

129. Czaus, K. (NS). System for shaping high-voltage nanosecond pulses as a power supply for Pockels or Kerr cells. Patent Poland, no. 107023, 16 June 1980. (RZhRadiot, 4/81, 4Ye186)

130. Golovitskiy, A.P., V.A. Kruzhalov, T.M. Perchanok, and S.G. Romanov (29). Study on the amplifying properties of a CO_2-N_2-He medium with various systems of microwave preionization. KE, no. 4, 1981, 893-894.

131. Grigor'yev, G.Yu., V.A. Zametalov, and A.P. Senchenkov (0). Using reflected electrons to increase the efficiency of electroionization lasers. ZhTF P, no. 7, 1981, 430-432.

132. Krajicek, V. (NS). Spark gaps for lasers. JMO, no. 11, 1980, 319-321. (RZhF, 4/81, 4D904)

133. Mel'nikov, V.V., Yu.M. Smirnov, and Yu.D. Sharonov (0). Measuring the cross-section for exciting a manganese atom by electron collision. OiS, v. 50, no. 7, 1981, 652-657.

134. Nekhayenko, V.A. (2). Theory on synchronous pumping of dye lasers. KE, no. 4, 1981, 737-744.

3. Deflectors

135. Yashin, E.M., V.A. Zhabotinskiy, B.V. Ul'yanov, S.G. Arakelyan, and N.P. Amel'chakov (0). Electrooptic deflector. Author's certificate USSR, no. 765774, 23 Sep 1980. (RZhRadiot, 3/81, 3Ye213)

4. Diffraction Gratings

136. Barkan, I.B., V.V. Lebedev, and A.V. Vorob'yev (0). Phase volume holographic grating in $LiNbO_3$: a spatial frequency selector for a tunable laser. Sb 3, 73-82. (RZhF, 4/81, 4D977)

5. Windows

137. Blistanov, A.A., O.M. Kugayenko, M.M. Tagiyeva, M.P. Shaskol'skaya, Yu.A. Yegorov, V.V. Sumerin, and V.A. Ul'yanov (0). Study on damage to laser output windows and ways of improving their efficiency. Sb 9, 150-151. (RZhMekh, 4/81, 4V1443)

6. Filters

138. Badikov, V.V., I.N. Matveyev, S.M. Pshenichnikov, O.V. Rychik, N.K. Trotsenko, and N.D. Ustinov (0). Tunable narrow-band optical filter using a $CdGa_2S_4$ single crystal. KE, no. 4, 1981, 910-912.

139. Yakobi, Yu.A. (193). Tuning the emission spectrum of a laser by intracavity spatial filtering. KE, no. 3, 1981, 555-564.

7. Mirrors

140. Bonch-Bruyevich, A.M., V.G. Dorfeyev, V.A. Kareva, M.K. Kochengina, M.N. Libenson, V.S. Makin, and S.D. Pudkov (0). Optical characteristics of metal as a function of attenuation length for surface e-m waves. IAN Fiz, no. 3, 1981, 647-650.

141. Pliyev, L.F., V.P. Bardin, V.A. Lavrenchuk, I.D. Morozov, and L.G. Rytikov (0). Light-weight optical mirror. Author's certificate USSR, no. 763832, 15 Sep 1980. (RZhRadiot, 3/81, 3Ye312)

8. Detectors

142. Andreyev, A.A., M.M. Butusov, V.V. Gudenko, N.V. Yermakova, A.I. Kosarev, A.A. Rodina, and D.P. Utkin-Edin (0). Detecting radiation in an optical fiber. ZhTF P, no. 8, 1981, 467-469.

143. Antonov, V.V., A.V. Voytsekhovskiy, M.A. Krivov, Ye.V. Malisova, E.N. Mel'chenko, M.P. Nikiforova, Ye.A. Popova, G.M. Fuks, and S.S. Khludkov (47). Study on the electrophysical and photoelectric properties of GaAs doped with manganese and used as the material in photoresist detectors. IVUZ Fiz, no. 3, 1981, 15-19.

144. Chernyakov, V.N., Yu.G. Popov, and V.I. Kukhtevich (0). Nonlinear characteristics of metal-oxide-metal diodes. RiE, no. 3, 1981, 661-664.

145. Il'in, G.I. (216). Device for detecting short pulsed optical signals. Author's certificate USSR, no. 757867, 25 Aug 1980. (RZhRadiot, 3/81, 3Ye315)

146. Kravchenko, A.B., A.F. Plotnikov, Yu.M. Popov, and V.E. Shubin (1). Optical detection using a metal-dielectric-semiconductor avalanche multiplier. KE, no. 4, 1981, 785-792.

9. Modulators

147. Agamalyan, N.R., R.G. Arshakuni, Zh.O. Ninoyan, M.B. Chryan, and I.N. Kiseleva (69). Effect of gamma irradiation on the optical absorption spectrum of $LiNbO_3$:Fe crystals. IAN Arm, no. 2, 1981, 123-125.

148. Akimov, A.P., V.A. Korostelev, and S.I. Khomenko (0). Obtaining a regular laser pulse sequence by means of a frustrated total internal reflection modulator. Sb 10, 117-121. (RZhF, 4/81, 4D1256)

149. Bareyka, B., R. Gadonas, R. Danelyus, and V. Sirutkaytis (49). Direct measurement of picosecond relaxation times for passive Q-switches. KE, no. 3, 1981, 653-656.

150. Blok, A.S., V.R. Voronin, V.I. Lebedev, E.I. Krupitskiy, and V.V. Kulikov (0). E-O device for coding dot images. Avtometriya, no. 2, 1981, 113-114.

151. Burakov, V.S., A.F. Bokhonov, and V.V. Zhukovskiy (0). Lasing dynamics of solid state lasers with a Faraday modulator in the resonator. IAN B, no. 6, 1980, 64-69. (RZhF, 4/81, 4D1255)

152. Gadiyak, G.V., K.A. Nasyrov, A.M. Orishich, and A.G. Ponomarenko (193). High-power pulse shaping in an amplifying system. Institut teoreticheskoy i prikladnoy mekhaniki SOAN. Preprint, no. 26, 1980, 14 p. (RZhF, 4/81, 4D1250)

153. Golubeva, N.S., B.L. Sozinov, and A.S. Chernikov (0). Controlling the energy and time characteristics of a periodically Q-switched laser. Sb 10, 61-66. (RZhF, 4/81, 4D1254)

154. Ivanova, T.F., M.P. Votinov, A.F. Dokukina, B.D. Piterkin, Z.A. Smirnova, and G.M. Yemel'yanova (29). Dyed copolymers as a material for laser technology. IAN Fiz, no. 4, 1981, 662-665.

155. Karimov, A.V., and M. Mirzabayev (0). Modulating CO_2 laser radiation with transverse r-f excitation. IAN Uz, no. 5, 1980, 88-90. (RZhRadiot, 4/81, 4Ye189)

156. Ostrovskiy, I.V., V.K. Rezunkov, G.Yu. Khotyaintseva, and O.A. Korotchenkov (51). Controlling the optical path length in a bounded photoelastic dielectric. UFZh, no. 4, 1981, 586-589.

157. Pestryakov, Ye.V., and V.M. Plyasulya (159). Determining the sign of electrooptic coefficients for piezoelectric crystals using an optical rectifying effect. ZhTF P, no. 8, 1981, 470-473.

158. Ponomarev, A.V. (0). Pulsed laser. Otkr izobr, no. 6, 1981, 805456.

159. Tudor, T., A. Dumitrica, and D. Apostol (NS). Optical frequency translator using two KDP crystals in tandem. Sb 5, 31-35. (RZhF, 4/81, 4D922)

160. Vardanyan, V.R., and R.S. Mikayelyan (0). Acoustooptic elements for controlling laser optical information processing systems. Sb 10, 55-60. (RZhF, 4/81, 4D1257)

161. Vodovatov, I.A., N.A. Yesepkina, V.Yu. Petrun'kin, and S.A. Rogov (29). Holographic method of compensating for the divergence of ultrasound in multichannel acoustooptic devices. ZhTF P, no. 6, 1981, 369-373.

162. Voronova, K.A., M.I. Karaman, Ye.V. Maksimov, A.D. Mel'nik, V.P. Mushinskiy, Ye.P. Pokatilov, B.I. Rapoport, and V.M. Fomin (0). Effect of surface composition on the operational characteristics of a photoconducting electrooptic crystal spatial light modulator. ZhTF, no. 4, 1981, 789-794.

163. Yesikov, O.S., N.A. Toloknov, and N.P. Fedorov (0). Study on the spatial-frequency characteristics of a light modulator using magnetooptic rare-earth garnet crystals. Sb 10, 76-83. (RZhRadiot, 3/81, 3Ye207)

164. Zhiglinskiy, A.G., and N.P. Milovanov (12). Device for controlling wavefronts. Otkr izobr, no. 3, 1981, 798481.

F. NONLINEAR OPTICS

1. Frequency Conversion

165. Arkhipkin, V.G., and A.K. Popov (210). Conversion of IR radiation in resonant gaseous nonlinear media. Institut fiziki SOAN. Preprint, no. 150, 1980, 19 p. (RZhF, 4/81, 4D1285)

166. Arkhipkin, V.G., N.P. Makarov, A.K. Popov, V.P. Timofeyev, and V.Sh. Epshteyn (210). Efficient upconversion of neodymium laser radiation to the visible in calcium vapors. KE, no. 3, 1981, 643-645.

167. Arkhipkin, V.G., N.P. Makarov, A.K. Popov, V.P. Timofeyev, and V.Sh. Epshteyn (0). Frequency conversion of neodymium laser radiation to the visible spectral region in rubidium vapor. OiS, v. 50, no. 3, 1981, 602-604.

168. Arkhipkin, V.G., and A.K. Popov (210). Conversion of IR radiation in resonant nonlinear media. ZhTF P, no. 7, 1981, 414-418.

169. Avetisyan, Yu.O., D.A. Bagdasaryan, P.S. Pogosyan, A.F. Semerok, and D.N. Sobolenko (0). Broadband tunable lasing in the submillimeter range by nonlinear frequency mixing in pulsed CO_2 lasers. IAN Arm, no. 6, 1980, 455-457. (RZhF, 4/81, 4D1300)

170. Ayvazyan, Yu.M., B.V. Melkumyan, B.N. Morozov, and L.A. Fedotova (140). Parametric frequency upconversion in a broad IR spectrum. Sb 1, 21-24. (RZhF, 3/81, 3D1313)

171. Bakhramov, S.A., and G.Kh. Tartakovskiy (0). Conference on Nonlinear Resonant Frequency Conversion of Laser Radiation, Tashkent, 3-5 Oct 1979. KE, no. 3, 1981, 678-679.

172. Belyy, M.U., N.Ye. Korniyenko, B.A. Okhrimenko, R.A. Petrenko, V.L. Strizhevskiy, A.I. Sharapa, and V.P. Yashchuk (51). Various laws of intracavity second harmonic generation. Sb 7, 38-54.

173. Belyy V.N., G.A. Pashkevich, and A.G. Khatkevich (3). Converting the frequency of ultrasonic beams in crystals. IAN B, no. 2, 1981, 77-82.

174. Belyy, V.N., N.S. Kazak, and M.I. Sergiyenko (0). Diffraction of intense laser radiation and its second harmonic by elastic waves in crystals. ZhPS, v. 34, no. 4, 1981, 613-617.

175. Davidova, T.A., and N.I. Chernova (181). Second harmonic generation during interaction of an e-m wave with a hot, strongly inhomogeneous plasma. UFZh, no. 3, 1981, 388-393.

176. Dmitriyev, V.G., P.G. Konvisar, I.B. Lyushnya, V.Yu. Mikhaylov, S.R. Rustamov, and M.F. Stel'makh (0). Efficient intracavity second harmonic generation of c-w YAG:Nd^{3+} laser radiation in an $LiIO_3$ crystal. KE, no. 4, 1981, 906-907.

177. Iskanderov, N.A., V.A. Kudryashov, and I.N. Matveyev (0). Stationary resonant upconversion of IR signals in a narrow band pump field. OiS, v. 50, no. 3, 1981, 582-585.

178. Liberts, G.V. (0). Optical second harmonic generation in lead-magnesium niobate and lead-scandium niobate single crystals. PSS, v. A61, no. 1, 1980, K43-K46. (RZhF, 4/81, 4D1291)

179. Luk'yanov, D.P. (0). Parametric frequency conversion. Sb 11, 376-427.

180. Lyakhov, G.A., and Yu.P. Svirko (0). Optical second harmonic generation in direction-ordered liquids. ZhETF, v. 80, no. 4, 1981, 1307-1316.

181. Popolitov, V.I., and S.Yu. Stefanovich (122). Physical properties of $Sb(Sb_xNb_{1-x})O_4$ synthetic single crystals. ZhTF P, no. 6, 1981, 360-363.

182. Shashkov, A.Yu., V.A. Yefremov, I. Matsichek, N.V. Rannev, Yu.N. Venevtsev, and V.K. Trunov (122,569). Crystalline structure of α-lead-tetragermanate (α-$PbGe_4O_9$). ZhNKh, no. 3, 1981, 583-587.

183. Verbovskiy, V.I., V.M. Klement'yev, and Yu.Ya. Pecherskiy (0). Frequency doubling in a c-w tunable color-center laser. Sb 3, 16-20. (RZhF, 4/81, 4D1292)

184. Zolotov, Ye.M., A.M. Prokhorov, and V.A. Chernykh (1). E-O and thermal phase lock tuning during second harmonic generation in channeled Ti:$LiNbO_3$ waveguides. ZhTF P, no. 5, 1981, 299-303.

2. Parametric Processes

185. Barykinskiy, G.M. (0). Phase locking during a three-frequency collinear parametric interaction of waves in uniaxial crystals. Sb 3, 109-112. (RZhF, 4/81, 4D1297)

186. D'yakov, V.A., V.I. Pryalkin, and A.I. Kholodnykh (2). Optical parametric oscillator using a $KNbO_3$ crystal and pumped by the second harmonic of a YAG laser. KE, no. 4, 1981, 715-721.

187. Soldatov, A.N., V.B. Sukhanov, Yu.P. Polunin, and A.I. Kholodnykh (0). Optical parametric oscillator using a $BaNaNb_5O_{15}$ crystal pumped by a copper vapor laser. ZhTF, no. 4, 1981, 866-869.

188. Varanavichyus, A., R. Grigonis, A. Piskarskas, A. Stabinis, and A. Yankauskas (49). Wavefront reversal of weak picosecond signals in three-photon optical parametric amplifiers. ZhTF, no. 3, 1981, 662-664.

3. Stimulated Scattering

a. Raman

189. Kuzin, Ye.A. (4). Threshold values for the pump power during stimulated Raman scattering in optical fibers. ZhTF P, no. 7, 1981, 410-413.

190. Okladnikov, N.V., A.A. Garmonov, A.D. Kudryavtseva, and A.I. Sokolovskaya (1). Energy threshold for reconstruction of laser radiation amplitude and phase during stimulated optical scattering. KSpF, no. 1, 1981, 17-23.

191. Sinichkin, Yu.P. (0). Spectral width of the first Stokes component of stimulated Raman scattering in liquids. Sb 12, 81-86. (RZhF, 4/81, 4D1314)

192. Trifonov, Ye.D., A.S. Troshin, and N.I. Shamrov (0). Theory of cooperative Raman scattering. Sb 13, 43-75. (RZhF, 4/81, 4D1089)

193. Valakh, M.Ya., A.P. Litvinchuk, G.S. Pekar', and G.N. Polisskiy (6). Resonant Raman scattering in $Zn_{1-x}Cd_xSe$ crystals. FTT, no. 4, 1981, 1010-1013.

b. Brillouin

194. Bal'kyavichyus, P.Y., A.S. Dement'yev, Ye.K. Kosenko, I.P. Lukoshyus, E.K. Maldutis, and V.P. Tarulis (506). Reconstructing the spectrum for stimulated Brillouin scattering of wide-spectrum laser beams in condensed media. ZhTF P, no. 7, 1981, 385-389.

195. Krivoshchekov, G.V., M.F. Stupak, and T.T. Timofeyev (75). Broadening of spectral components of stimulated Brillouin scattering during wavefront reversal. ZhTF P, no. 8, 1981, 506-509.

196. Lembrikov, B.I. (0). Stimulated Brillouin scattering analog in smectic A crystals. FTT, no. 4, 1981, 1216-1218.

197. Papernyy, S.B., V.F. Petrov, and V.R. Startsev (0). Observing quasisoliton interaction during stimulated Brillouin scattering. ZhTF P, no. 7, 1981, 433-435.

198. Vasil'yev, M.V., A.A. Leshchev, P.M. Semenov, and V.G. Sidorovich (0). Effect of stimulated scattering in a cavity on the spatial coherence of laser radiation. ZhTF P, no. 6, 1981, 377-380.

c. Miscellaneous Scattering

199. Arakelyan, S.M., L.Ye. Arushanyan, and Yu.S. Chilingaryan (37). Fluctuations in a nematic liquid crystal in an experiment on light scattering and the correlation of phase transition temperature with an isotropic fluid. ZhETF, v. 80, no. 3, 1981, 1186-1198.

200. Pevtsov, A.B., S.A. Permogorov, and A.V. Sel'kin (4). Rayleigh scattering by polaritons in CdS crystals. ZhETF P, v. 33, no. 8, 1981, 419-422.

201. Pilipetskiy, N.F., V.I. Popovichev, and V.V. Ragul'skiy (17). Comparison of the gain coefficients for reflected and nonreflected waves during stimulated optical scattering. DAN SSSR, v. 257, no. 5, 1981, 1116-1121.

202. Yefimkov, V.F., I.G. Zubarev, A.V. Kotov, A.B. Mironov, and S.I. Mikhaylov (1). Incremental amplification of Stokes fields during stimulated scattering of spatially inhomogeneous radiation. KE, no. 4, 1981, 891-893.

4. Self-focusing

203. Kryzhanovskiy, V.I., A.A. Mak, V.A. Serebryakov, and V.Ye. Yashin (0). Using the phenomenon of wavefront reversal to suppress small-scale self-focusing. ZhTF P, no. 7, 1981, 400-404.

204. Rozanov, N.N. (0). Hysteresis from self-action of coherent radiation in media with resonant nonlinearities. ZhTF P, no. 6, 1981, 351-355.

5. Acoustic Interaction

205. Antonov, S.N., M.R. Kozlov, and V.V. Proklov (0). Angular spectra of diffracted light during strong acoustooptic interaction in TeO_2. OiS, v. 50, no. 4, 1981, 805-808.

206. Balakshiy, V.I. (2). Acoustooptic modulators with optical diffraction anisotropy. IAN Fiz, no. 3, 1981, 636-639.

207. Balakshiy, V.I., V.N. Parygin, and Kh.A. Upasena (2). Feasibility of recording the phase structure of a light field using an acoustical method. KE, no. 4, 1981, 865-872.

208. Bentsa, V.M., A.A. Spesivykh, and A.V. Bogdanova (136). Using optical emission to study the energy structure of Tl_3AsS_4. IVUZ Fiz, no. 4, 1981, 110-112.

209. Bunkin, F.V., A.I. Malyarovskiy, and V.G. Mikhalevich (1). Experimental study on pulsed sonic fields excited by moving laser thermooptic sources. Akusticheskiy zhurnal, no. 2, 1981, 179-186.

210. Bunkin, F.V., D.V. Vlasov, and Yu.A. Kravtsov (1). Wavefront reversal and self-focusing of sound due to nonlinear interaction with a liquid surface. ZhTF P, no. 6, 1981, 325-329.

211. Domarkas, A., I.L. Drichko, and A.M. D'yakonov (4). Study on photoelastic mechanisms during diffraction of light by sound in n-InSb. FTT, no. 4, 1981, 959-965.

212. Golubnichiy, P.I., G.S. Kalyuzhnyy, S.D. Korchikov, V.V. Petrenko, V.N. Ponomarev, and V.I. Yakovlev (0). Mechanism of generating acoustic radiation in a liquid using beams of ionized particles. ZhTF P, no. 5, 1981, 272-276.

6. General Theory

213. Antsiferov, P.S., M.A. Vasil'yeva, V.I. Malyshev, and A.V. Masalov (1). Observation and application of optical self-diffraction by induced dichroism gratings in crystals. KSpF, no. 2, 1981, 37-42.

214. Baklanov, Ye.V., Ye.A. Titov, and V.A. Ulybin (159). Two-photon absorption in a standing wave field formed by an ion gas in a magnetic field. KE, no. 4, 1981, 799-804.

215. Basov, N.G., B.Ya. Zel'dovich, V.I. Kovalev, F.S. Fayzullov, and V.B. Fedorov (1). Reflection of a multifrequency signal during 10.6 μm four-wave interaction in germanium. KE, no. 4, 1981, 860-864.

216. Blistanov, A.A., V.V. Geras'kin, and S.V. Kudasova (152). Effect of an electric field on optical inhomogeneity in $LiNbO_3$. Kristal, no. 2, 1981, 356-361.

217. Bokut', B.V., V.V. Gvozdev, and A.N. Serdyukov (0). Excitation of plasma waves in a medium with nonlinear optical activity. DAN B, no. 11, 1980, 983-985. (RZhF, 4/81, 4D1273)

218. Golovey, M.I., Ye.Yu. Peresh, and Ye.Ye. Semrad (136). Preparation and properties of semiconductor materials of complex composition which are promising for quantum electronics and optoelectronics. Sb 7, 93-103.

219. Golubtsov, A.A., N.F. Pilipetskiy, A.N. Sudarkin, and V.V. Shkunov (17). Wavefront reversal during optical shaping of absorbing surfaces. KE, no. 3, 1981, 663-666.

220. Gusev, Yu.L., S.N. Konoplin, A.V. Kirpichnikov, and S.I. Marennikov (0). Nonlinear absorption of light by color centers in alkali-halide crystals. Sb 3, 116-118. (RZhF, 4/81, 4D1272)

221. Khizhnyak, A.I. (5). Efficiency of four-wave interaction in a medium with cubic nonlinearity. IAN Fiz, no. 3, 1981, 640-643.

222. Kolosov, V.V., and A.V. Kuzikovskiy (78). Phase compensation for refractive distortions in partially coherent beams. KE, no. 3, 1981, 490-494.

223. Myagchenko, Yu.A., and A.V. Slobodyanyuk (51). Nonlinear optical activity in absorbing crystals. UFZh, no. 3, 1981, 435-438.

224. Parzynski, R. (NS). Using near-resonant two-photon ionization to measure non-Coulomb phase shifts of photoelectron partial waves. APP, v. A58, no. 3, 1980, 305-315. (RZhF, 4/81, 4D1284)

225. Slivka, V.Yu., Yu.M. Vysochanskiy, and D.V. Chepur (136). Materials for quantum electronics based on semiconductor compounds of complex composition. Anharmonism of crystal lattice vibrations during phase transitions. Sb 7, 54-74.

226. Slivka, V.Yu., Yu.V. Voroshilov, and D.V. Chepur (136). Materials for quantum electronics based on semiconductor compounds of complex composition. Physical properties. Sb 7, 74-93.

227. Smirnov, D.F., and A.S. Troshin (0). Photon statistics in spontaneous emission and nonlinear resonance fluorescence. Sb 13, 85-97. (RZhF, 4/81, 4D1066)

G. SPECTROSCOPY OF LASER MATERIALS

228. Antonov, V.A., P.A. Arsen'yev, Kh.S. Bagdasarov, D.I. Korolev, A.M. Kevorkov, A. Niklas, V. Yelenski, and Ye. Viyekhula (0). Thermal luminescence in lutetium-yttrium scandate crystals doped with neodymium ions. ZhPS, v. 34, no. 3, 1981, 430-434.

229. Belyy, M.U., B.A. Okhrimenko, and N.A. Tripachko (51). Effect of neodymium ions on the kinetics and emission of luminescence from thallium complexes. UFZh, no. 3, 1981, 384-387.

230. Gruzinskiy, V.V., S.V. Davydov, and A.V. Kukhto (0). Effect of induced absorption in foreign gases on the fluorescence power of complex organic compound vapors pumped by e-beams under conditions of amplification. ZhPS, v. 34, no. 3, 1981, 445-451.

231. Levshin, L.V., M.G. Reva, and B.D. Ryzhikov (0). Spectral characteristics of complex organic molecular associates as a function of their structure. ZhPS, v. 34, no. 4, 1981, 656-662.

232. Mel'nikov, V.V., and Yu.M. Smirnov (0). Cross-section for exciting CrII spectral lines from the ground state of a chromium atom. OiS, v. 50, no. 3, 1981, 595-597.

233. Ovanesyan, K.L., A.G. Petrosyan, G.O. Shirinyan, and A.A. Avetisyan (59). Optical dispersion and thermal broadening in $Lu_3Al_5O_{12}$, $Er_3Al_5O_{12}$ and $Y_3Al_5O_{12}$ garnets. NM, no. 3, 1981, 459-462.

234. Ryzhikov, B.D., L.V. Levshin, P.K. Senatorov, and N.R. Senatorova (0). Possible mechanism for thermal quenching of molecular luminescence. OiS, v. 50, no. 4, 1981, 688-694.

235. Voronova, T.Ya., and I.M. Obodovskiy (0). Transparency of liquid xenon to its own emission. ZhPS, v. 34, no. 4, 1981, 730-732.

236. Voropay, Ye.S., A.A. Kirsanov, V.A. Sayechnikov, and A.M. Sarzhevskiy (334). Intermolecular relaxation under conditions of high-power excitation. DAN B, no. 3, 1981, 217-220.

H. ULTRASHORT PULSE GENERATION

237. Butylkin, V.S., V.S. Grigor'yan, and M.Ye. Zhabotinskiy (15). Asymptotic behavior of ultrashort light pulses during resonant interaction with a medium. ZhETF, v. 80, no. 3, 1981, 933-956.

238. Isayev, S.K., L.S. Korniyenko, N.V. Kravtsov, A.M. Prokhorov, V.N. Serkin, and V.V. Firsov (98). Ultrashort pulse generation in a Raman lightguide laser. DAN SSSR, v. 257, no. 1, 1981, 75-78.

239. Isayev, S.K., L.S. Korniyenko, N.V. Kravtsov, and V.N. Serkin (98). Formation of ultrashort light pulses in a laser with a bleachable filter during stimulated intracavity Raman radiation. KE, no. 3, 1981, 605-614.

J. CRYSTAL GROWING

240. Vyatkin, K.V., A.P. Shotov, and V.V. Ursaki (0). Thin layers of $Pb_{1-x}Sn_xSe$ grown by the "hot wall" method. NM, no. 1, 1981, 24-27. (RZhF, 4/81, 4Ye561)

K. THEORETICAL ASPECTS OF ADVANCED LASERS

241. Bayyer, V.N., V.M. Katkov, and V.M. Strakhovenko (79). Radiation from relativistic particles during quasiperiodic motion. ZhETF, v. 80, no. 4, 1981, 1348-1360.

242. Borisov, M. (NS). Some new trends in the development of wave and quantum electronics. Fizika [Bulgaria], no. 5, 1980, 5-14. (RZhF, 4/81, 4D1093)

243. Borovskiy, A.V., and V.V. Korobkin (1). Analysis of the possibility of developing a gamma laser using various systems of controlled fusion with inertial confinement. Fizicheskiy institut AN SSSR. Preprint, no. 193, 1980, 21 p. (RZhRadiot, 4/81, 4Ye182)

244. Germer, R. (0). Experimental suggestions for an x-ray laser. Sb 4, 162. (RZhRadiot, 3/81, 3Ye204)

245. Ginzburg, N.S. (426). Frequency tuning and generation of higher harmonics in free electron lasers with intense pump fields. ZhTF, no. 4, 1981, 764-770.

246. Mantsyzov, B.I., V.A. Bushuyev, and R.N. Kuz'min (2). Effect of thermal characteristics on the threshold for generating Mössbauer gamma radiation in a system of excited nuclei. ZhETF, v. 80, no. 3, 1981, 891-896.

247. Zaretskiy, D.F., E.A. Nersesov, and M.V. Fedorov (1). Coefficient of gain in a Compton laser. ZhETF, v. 80, no. 3, 1981, 999-1007.

L. GENERAL LASER THEORY

248. Alekseyev, A.I., and A.M. Basharov (16). Coherent radiation from atoms interacting with traveling and standing waves. ZhETF, v. 80, no. 4, 1981, 1361-1370.

249. Arutyunyan, V.M., G.P. Dzhotyan, and A.V. Karmenyan (0). Theory of quasiwaveguide lasing in an active layer. IAN Arm, no. 5, 1980, 379-401. (RZhF, 4/81, 4D1099)

250. Bogdanov, Ye.I. (0). Classical analog of a superradiant transition. UFZh, no. 10, 1980, 1735-1736. (RZhF, 4/81, 4D1067)

251. Borisov, M. (NS). Some new trends in the development of wave and quantum electronics. Fizika [Bulgaria], no. 4, 1980, 4-19. (RZhF, 3/81, 3A77)

252. Bykov, V.P., and G.V. Shepelev (18,118). Elementary processes for lengthening a train of spontaneous emission pulses. KE, no. 4, 1981, 699-707.

253. Idiatulin, V.S. (140). The problem of self-sustained lasing and the structure of superradiance spectra. Sb 1, 72-75. (RZhF, 3/81, 3D1190)

254. Malikov, R.F., V.A. Malyshev, and Ye.D. Trifonov (0). Semiclassical theory of cooperative radiation in an extended system. Sb 13, 3-32. (RZhF, 4/81, 4D1068)

255. Malikov, R.F. (0). Possibility of observing superradiance in activated crystals. Sb 13, 33-42. (RZhF, 4/81, 4D1071)

256. Sudakova, S.P. (0). Reproducibility of a three-level single-isotope gas medium in a nonmonochromatic field. Deposit at VINITI, no. 41-81, 5 Jan 1981, 12 p. (RZhF, 3/81, 3D1183)

II. LASER APPLICATIONS

A. BIOLOGICAL EFFECTS

257. Aleynikov, V.S., V.P. Belyayev, B.V. Grigor'yev, N.D. Devyatkov, and N.I. Stepanishcheva (0). Physiotherapeutic device based on an He-Ne laser. VKFLFK, no. 6, 1980, 53-54.

258. Andreyeva, V.M., and A.A. Minenkov (605). Effect of low-intensity laser radiation on the functional state of the central nervous system and cerebral circulation in patients with hypertensive disease. VKFLFK, no. 6, 1980, 12-16.

259. Antonov, I. (0). Efficiency of "live" radiation. Tekhnika i nauka, no. 3, 1981, 8-10.

260. Arkhangel'skiy, A.V., O.G. Astaf'yeva, and I.V. Isupov (596). Experiments on the effect of an IR laser on the morphoenzymology and oxygen balance of a wound. Arkhiv patologii, no. 6, 1980, 19-23.

261. Avdeyev, P.S., Yu.D. Berezin, V.V. Volkov, Yu.P. Gudakovskiy, V.R. Muratov, A.A. Mak, A.G. Murzin, and V.A. Fromzel' (0). Laser treatment of corneal stroma diseases. Vestnik oftal'mologii, no. 1, 1981, 32-35.

262. Bogdanovich, U.Ya. (604). Using a laser to treat injuries and diseases of the organs of support and motion. Sovetskaya meditsina, no. 3, 1980, 61-66.

263. Budagyan, I.F., V.V. Gorodilin, and D.I. Mirovitskiy (0). Principles in constructing microwave complexes for laser biostimulation. Sb 12, 172-182. (RZhRadiot, 3/81, 3Ye493)

264. Bykovskaya, L.A., F.F. Litvin, R.I. Personov, and Yu.V. Romanovskiy (72,2). Fine structure of the fluorescence spectra of chlorophyll-*a*, protochlorophyll and their pheophytins under selective laser stimulation. Biofizika, no. 1, 1980, 13-20.

265. Danilova, I.N., D.L. Vashkevich, and T.M. Kamenetskaya (605). Monochromatic coherent radiation in the treatment of patients with rheumatoid arthritis. VKFLFK, no. 6, 1980, 17-20.

266. Il'yasova, Sh.G., and M.F. Popova (602). Effect of He-Ne laser beams on the process of postradiation recovery in skeletal muscle tissues. Byulleten' eksperimental'noy biologii i meditsiny, no. 2, 1980, 222-224.

267. Inyushin, V.M. (0). The laser instead of drugs. Nauka i tekhnika, no. 9, 1980, 24-25.

268. Kalinin, Ye.V. (600). Sizes of hepatocyte nuclei under the action of high-power gas laser radiation. Patologicheskaya fiziologiya i eksperimental'naya terapiya, no. 2, 1980, 58-61.

269. Karimov, M.G. (604). Treatment of humeroscapular periarthritis, epicondylitis and styloiditis by laser light. Kazanskiy meditsinskiy zhurnal, no. 1, 1980, 20-22.

270. Kerimov, R.A., and V.V. Vit (124). Action of neodymium laser radiation on a Garding-Passy melanoblastoma of the iris. Oftal'mologicheskiy zhurnal, no. 1, 1980, 41-45.

271. Khvatova, A.V., N.V. Makarskaya, and N.N. Arestova (280). Laser photocoagulation in the anterior section of the eyes in children. Vestnik oftal'mologii, no. 2, 1980, 34-35.

272. Komarova, A.A. (381). Need for setting standards on scattered laser radiation. Gigiyena i sanitariya, no. 6, 1980, 22-24.

273. Krylov, O.A. (605). Ways of studying the mechanism of the action of laser irradiation [in physiotherapy]. VKFLFK, no. 6, 1980, 1-5.

274. Manykin, E.A., A.K. Fannibo, N.N. Gabyshev, A.A. Manykin, and S.M. Klimenko (16,425). Action of laser radiation on viral particles dependent on the structure of the attendent dye. Biofizika, no. 6, 1980, 1000-1005.

275. Moskalik, K.G., and V.V. Lazo (100). Change in the antigenic properties of skin under the effect of pulsed laser radiation. Patologicheskaya fiziologiya i eksperimental'naya terapiya, no. 5, 1980, 51-54.

276. Popov, V.I. (605). Action of laser radiation on the mitotic activity of hepatocytes in a regenerative liver. VKFLFK, no. 6, 1980, 10-12.

277. Prokop'yev, V.Ye. (78). Perception of IR laser radiation by the human eye. Biofizika, no. 2, 1980, 305-306.

278. Sarkisyan, A.P., and V.P. Teodorovich (171,603). Effect of laser irradiation on the regenerative processes in the hematopoetic system of rabbits suffering from benzene poisoning. Gigiyena truda i professional'nyye zabolevaniya, no. 3, 1980, 9-13.

279. Serykh, M.M., V.I. Dreval', O.N. Averkiyeva, and A.V. Sokolovskiy (598). Effect of multiple laser irradiation of rats on the activity of phosphatases in the blood plasma. Biologicheskiye nauki, no. 11, 1980, 25-28.

280. Shitskova, A.P., A.I. Zaichenko, O.G. Pol'skiy, Yu.P. Pal'tsev, and A.L. Karmolin (381). Hygienic aspects of laser safety. Gigiyena truda i professional'nyye zabolevaniya, no. 2, 1981, 32-36.

281. Shtel'makh, N.I., and S.M. Filippova (611). Using He-Ne laser radiation to treat patients with acute pneumonia. Vrachebnoye delo, no. 4, 1981, 18-21.

282. Shutova, T.V., and I.L. Pshetakovskiy (597). Effect of laser radiation on the immunological values in patients with arthrosis. Arkhiv patologii, no. 6, 1980, 76-80.

283. Sukhoviya, M.I., and V.S. Shevera (136). Laser-induced defects in the secondary structure of DNA. Biofizika, no. 5, 1980, 913-914.

284. Terent'yeva, L.S., and R.A. Kerimov (124). Treatment of chorioid melanoblastomas by Nd laser radiation. Oftal'mologicheskiy zhurnal, no. 7, 1980, 405-408.

285. Timen, G.E. (606). Laser radiation and its use in otolaryngology. Zhurnal ushnykh nosovykh i gorlovykh bolezney, no. 6, 1980, 65-71.

286. Yergaliyev, K.Kh. (242). Morphological and physiological properties of Actinomyces roseoflavus strain 1128, irradiated by 337 nm laser light. AN KazSSR. Izvestiya. Seriya biologicheskaya, no. 3, 1980, 62-65.

287. Zhokhov, V.P., Yu.L. Kirillov, and P.V. Preobrazhenskiy (158). Some incidents of eye damage by laser radiation. Vestnik oftal'mologii, no. 1, 1981, 60-61.

288. Zotkina, V.P., A.A. Komarova, and T.F. Markova (381). Use of electroencelography to evaluate the effect of laser radiation on human organisms. Gigiyena i sanitariya, no. 5, 1980, 32-34.

289. Zubakova, S.M., I.N. Danilova, and T.M. Kamenetskaya (0). All-Union Conference on Using Methods and Means of Laser Technology in Biology and Medicine, Kiev, 24-26 Sep 1979. VKFLFK, no. 6, 1980, 65-67.

B. COMMUNICATIONS SYSTEMS

290. Alishev, Ya.V., and A.A. Berkutov (0). Effect of the shape and off-duty factor of optical pulses on the signal/noise ratio in laser communication lines. Radiotekhnika, no. 12, 1980, 47-82. (RZhRadiot, 3/81, 3Ye370)

291. Andriyesh, A.M., Yu.N. Ivashchenko, V.A. Karavanskiy, V.N. Morozov, V.A. Pletnev, Yu.M. Popov, and V.L. Smirnov (1). Study on grating structures in composite waveguides. KE, no. 4, 1981, 732-736.

292. Andrushko, L.M. (571). Synthesis of nonsymmetric plane inhomogeneous dielectric waveguides. Methods and examples. Sb /, 103-106.

293. Belov, A.V., and A.V. Nikolaychik (1). Tunneling leaky modes in fiber optic lightguides. KE, no. 3, 1981, 600-604.

294. Bogatyrev, V.A., M.M. Bubnov, Ye.M. Dianov, A.S. Konov, and A.Yu. Laptev (1,297). Study on the mechanical strength of fiber optic lightguides for optical communication systems. KE, no. 4, 1981, 844-852.

295. Borisov, E.V., and A.S. Nezhel'skiy (0). Improving the accuracy of time synchronization in atmospheric optical communications lines. Radiotekhnika, no. 12, 1980, 75-77. (RZhRadiot, 4/81, 4Ye386)

296. Bulakh, B.M., V.I. Kozlovskiy, N.K. Moiseyeva, A.S. Nasibov, G.S. Pekar', and P.V. Reznikov (0). Growth of bulk zinc chalcogenide single crystals from the vapor phase and their use for laser screens of projection color television. Kristall und Technik, no. 9, 1980, 995-1002. (RZhRadiot, 3/81, 3Ye387)

297. Buritskiy, K.S., Ye.M. Zolotov, A.M. Prokhorov, and V.A. Chernykh (1). Determining the characteristics of $LiNbO_3$ channel diffuse waveguides. KE, no. 4, 1981, 805-811.

298. Chernozatonskiy, L.A. (140). Light echo in optical waveguides. ZhTF P, no. 5, 1981, 294-299.

299. Dementiyenko, V.V., E.E. Godik, Yu.V. Gulyayev, V.P. Sinis, R.A. Suris, and A.A. Gager (0). Multimode effects during coherent reception of injection laser radiation. ZhTF P, no. 7, 1981, 442-445.

300. Deryugin, I.A., V.N. Kurashov, A.I. Mashchenko, Ag.T. Mirzayev, and As.T. Mirzayev (227). Transmission of discrete two-gradation images in an optical channel with a quantum detector. KE, no. 4, 1981, 760-764.

301. Deryugin, L.N., V.P. Demchenkov, A.A. Petrus', and A.V. Chekan (0). Using a broadband dye laser as the source in a system for spectral transmission of information. OiS, v. 50, no. 4, 1981, 625-627.

302. Dianov, Ye.M., V.M. Mashinskiy, and V.B. Neustruyev (1). Evaluating threshold optical losses in glassy germanium dioxide. KSpF, no. 3, 1981, 46-49.

303. Goryunova, T.D., I.V. Groshev, S.A. Dvoretskiy, M.V. Senashenko, and Ye.B. Shelemin (0). TV measuring system for reading information from luminiphorous panels. Metrologiya, no. 4, 1981, 18-21.

304. Gukov, G.B. (118). Evaluating the optical characteristics of bent lightguides. KE, no. 4, 1981, 825-829.

305. Nakwaski, W. (NS). Coupling an injection laser to a glass fiber lightguide. Przeglad telekomunikacyjny, no. 10, 1980, 341-345,322. (RZhRadiot, 4/81, 4Ye151)

306. Pasmanik, G.A., and M.S. Sandler (426). Feasibility of controlling the phase of optical signals using wavefront reversal and parametric mixing. KE, no. 4, 1981, 726-731.

307. Sychugov, V.A., and A.V. Tishchenko (1). Resonant mode conversion in a periodic dielectric waveguide. KE, no. 4, 1981, 693-698.

308. Sychugov, V.A., and A.V. Tishchenko (1). Study on diffuse planar glass waveguides. KE, no. 4, 1981, 779-784.

309. Voytenko, I.G., and V.P. Red'ko (321). Three channel E-O waveguide commutator. ZhTF P, no. 7, 1981, 418-421.

310. Ziling, K.K., and V.V. Shashkin (10). E-O properties of diffuse waveguides in $LiNbO_3$. ZhTF, no. 3, 1981, 662-664.

C. BEAM PROPAGATION

1. In the Atmosphere

311. Balakin, V.A., L.A. Ballod, V.P. Biryulin, O.A. Golubev, V.M. Kolobashkin, V.D. Mironov, A.I. Popov, Ye.D. Protsenko, and V.V. Ryzhov (16). Laser analyzer of hydrocarbons in the air. PTE, no. 2, 1981, 263.

312. Batrakov, A.S. (0). Fundamentals of optical ranging. Sb 11, 73-119.

313. Batrakov, A.S. (0). Basic trends in the perfection and optimization of laser ranging systems. Sb 11, 119-151.

314. Bayev, V.M., T.P. Belikova, S.A. Kovalenko, E.A. Sviridenkov, A.F. Suchkov, and D.D. Toptygin (140). Absorption spectrum of the atmosphere in the 625-637 nm range obtained by intracavity laser spectroscopy. Sb 1, 5-10. (RZhF, 3/81, 3D1383)

315. Belen'kiy, M.S., and V.L. Mironov (78). Laser method for determining the parameters of C_n^2 turbulence based on optical scattering by atmospheric aerosols. IVUZ Radiofiz, no. 3, 1981, 298-302.

316. Belen'kiy, M.S., A.A. Makarov, V.L. Mironov, and V.V. Pokasov (78). Method of determining the structural characteristics of the refractive index. Otkr izobr, no. 15, 1981, 702839.

317. Bufetov, I.A., A.M. Prokhorov, V.B. Fedorov, and V.K. Fomin (1). Propagation of a slow optical combustion wave in an Nd laser beam in air. KE, no. 4, 1981, 751-759.

318. Chagarov, L.M., L.N. Popov, and Ye.N. Figurovskiy (0). Attenuation of He-Ne laser radiation over a horizontal path in the surface boundary layer. Sb 14, 62-64. (RZhF, 3/81, 3D1153)

319. Dianov-Klokov, V.I. (64). Atmospheric spectroscopy. Sb 15, 158-171.

320. Gordin, M.P., V.P. Sadovnikov, and G.M. Strelkov (0). Thermal distortions of a laser beam in the atmosphere. RiE, no. 3, 1981, 627-631.

321. Gorodetskiy, A.K., Yu.A. Gol'din, and V.S. Malkova (0). Information content of back-scatter signals during laser probing of quasi-homogeneous clouds. Sb 16, 191-195.

322. Ivanov, A.P., A.P. Chaykovskiy, F.P. Osipenko, and I.S. Khutko (3). Study on the distribution of back-scattering coefficients in the troposphere. FAiO, no. 3, 1981, 259-265.

323. Kaloshin, G.A., A.S. Tekeyev, and V.Ya. Fadeyev (0). Threshold detection of laser signals in a turbid atmosphere. Deposit at VINITI, no. 170-81, 13 Jan 1981, 11 p. (RZhGeofiz, 4/81, 4B125)

324. Korniyenko, A.A., and D.P. Luk'yanov (0). Operation of laser measuring systems in channels with random parameters. Sb 11, 7-26.

325. Korniyenko, A.A. (0). Adaptive methods in coherent optical systems. Sb 11, 26-72.

326. Krutikov, V.A. (78). Correlation function for intensity fluctuations of optical Gaussian beams in a stratified medium with large scale discrete scatterers. IVUZ Radiofiz, no. 3, 1981, 314-321.

327. Kvasil, B. (NS). Calculation of reflecting areas by the Rayleigh and Raman dispersion by a gas medium in the atmosphere. Acta technika CSAV, no. 6, 1980, 736-759. (RZhGeofiz, 4/81, 4B130)

328. Mateshvili, G.G., and S.P. Chilingarashvili (456). New observations of aerosol layers in the middle atmosphere at Abastumani. AN GruzSSR. Soobshcheniye, v. 102, no. 2, 1981, 337-340.

329. Mironov, V.L., V.V. Nosov, and B.N. Chen (78). Average intensity of a light beam in a weakly nonlinear turbulent atmosphere. IVUZ Fiz, no. 4, 1981, 37-40.

330. Polovinkin, A.V., and A.I. Saichev (94). Average field in a reflected laser beam with wavefront reversal. IVUZ Radiofiz, no. 4, 1981, 433-437.

331. Prishivalko, A.P., and M.S. Veremchuk (3). Heating and vaporization of water droplets with an insoluble absorbing center during inhomogeneous internal heat release. DAN B, no. 4, 1981, 305-308.

332. Romanova, L.M., and Ye.M. Feygel'son (64). Radiation energy in the atmosphere and the theory of radiation transfer. Sb 15, 119-133.

333. Rozenberg, G.V. (64). Optical probing of the atmosphere. Sb 15, 12-25.

334. Rozenberg, G.V. (64). Atmospheric aerosols and the optics of scattering media. Sb 15, 134-157.

335. Shifrin, K.S. (0). Sixth Plenum of the Working Group on Ocean Optics, Baku, 20 Oct - 3 Nov 1979. Okeanologiya, no. 6, 1980, 1123-1126.

336. Stemkovskiy, A.I. (0). Laser method for measuring the slope dispersion of an agitated sea surface. Sb 17, 224-230. (RZhGeofiz, 3/81, 3V35)

337. Tlusty, J. (NS). Effect of atmospheric conditions on the propagation of a laser beam. JMO, no. 11, 1980, 303-304. (RZhF, 3/81, 3D1331)

338. Tsvetkov, V.A., V.I. Krasov, and Ye.A. Koroleva (207). State-of-the-art and trends in the development of spectral gas analyzers to monitor air pollution. Tr 1, 54-65.

339. Vayner, Yu.G., L.P. Malyavkin, I.M. Nazarov, Sh.D. Fridman, and V.D. Titov (0). Raman scattering method for remote monitoring of gas discharges. Meteorologiya i gidrologiya, no. 12, 1980, 39-47. (RZhGeofiz, 4/81, 4B508)

340. Yaglom, A.M., V.I. Tatarskiy, L.R. Tsvang, and Yu.A. Volkov (64). Atmospheric turbulence in problems of climate theory and wave propagation in the atmosphere. Sb 15, 51-93.

341. Zuyev, V.Ye., Yu.S. Makushkin, V.N. Marichev, A.A. Mitsel', I.V. Samokhvalov, and A.V. Sosnin (78). Laser probing of the atmospheric humidity profile. DAN SSSR, v. 257, no. 6, 1981, 1338-1342.

2. In Liquids

342. Afonin, Ye.I., M.V. Solov'yev, and V.A. Basharin (0). Determining the characteristics of suspended matter in the sea by optical measurements. Sb 18, 61-67. (RZhGeofiz, 3/81, 3V174)

343. Demidov, A.A., Ye.V. Baulin, V.V. Fadeyev, and L.A. Shur (2,210). Using laser spectrofluorimetry to measure concentrations of marine phytoplankton pigments. Okeanologiya, no. 1, 1981, 174-179.

344. Gol'din, Yu.A., V.N. Pelevin, and K.S. Shifrin (0). Light field from a pulsed source in seawater. Sb 19, 56-95.

345. Kopelevich, O.V., and K.S. Shifrin (0). Modern concepts on the optical properties of seawater. Sb 19, 4-55.

346. Kozlyaninov, M.V. (0). Basic principles of optical measurements in the sea and various hydrophotometric calculations. Sb 19, 96-162.

347. Voytov, V.I. (0). Optical expedition studies in the Atlantic, Indian and Pacific Oceans. Sb 19, 163-193.

3. Theory

348. Dedushenko, K.B., and A.I. Maymistov (0). Coupled waves in an inhomogeneously periodic medium. RiE, no. 4, 1981, 877-879.

349. Dzhulakyan, V.M. (0). Correlation function of intensity fluctuations in a longitudinal direction of laser radiation propagation. IAN Arm, no. 6, 1980, 452-454. (RZhF, 4/81, 4D1336)

350. Filippov, V.V. (0). Reflection and refraction of e-m waves at the boundary of a weakly anisotropic medium. ZhPS, v. 34, no. 3, 1981, 524-529.

351. Ivakhnik, V.V., V.M. Petnikova, and V.V. Shuvalov (2). Compensating for phase distortions in spatially modulated fields. KE, no. 4, 1981, 774-778.

352. Kandidov, V.P., and V.I. Ledenev (2). Study on thermal blooming of a light pulse in a turbulent medium by means of a statistical experiment. KE, no. 4, 1981, 873-877.

353. Klimontovich, Yu.L., and S.A. Sukhin (2). Spectral line-broadening as a problem in fluctuation theory in nonequilibrium plasma. VMU, no. 2, 1981, 33-43.

354. Rylov, G.Ye. (0). Compensation of the wavefront tilt in an inhomogeneous propagation medium. IAN Arm, no. 6, 1980, 448-451. (RZhF, 4/81, 4D1327)

355. Vorob'yev, V.V. (64). Suppression of fluctuations in laser beam intensity by defocusing with an extended lens. KE, no. 3, 1981, 666-669.

356. Zaytseva, G.G. (11). Deformation of the contour of a high-power optical pulse with phase modulation at the input, while propagating in a resonance amplifying medium. Deposit at VINITI, no. 5369-80, 19 Dec 1980, 5 p. (RZhF, 3/81, 3D1327)

D. COMPUTER TECHNOLOGY

357. Andreyev, V.I., A.N. Nesrullayev, A.S. Sonin, B.M. Stepanov, and Ye.B. Shelemin (141). Determining the parameters of spatial imaging during thermooptic recording in A smectics. ZhTF, no. 4, 1981, 879-881.

358. Arutyunov, N. (0). Information - the network of management. Tekhnika i nauka, no. 2, 1981, 6-8.

359. Astaf'yev, V.B. (0). Functional possibilities of devices with optical feedback. Sb 20, 47-53.

360. Galuyev, S.V., V.P. Mikheyev, B.S. Rozov, and V.I. Savel'yev (16). Limited information recording speeds in high-resolution laser systems. IVUZ Priboro, no. 3, 1981, 64-67.

361. Kartashov, O.G., L.F. Kupchenko, and T.G. Lishchina (0). Structure of spatial signals in the problem of holographic recognition. Sb 10, 102-116. (RZhRadiot, 3/81, 3Ye526)

362. Kasprzak, H. (NS). Possibility of optical performing of non-integer order derivatives. Opt app, no. 3, 1980, 289-292. (RZhF, 3/81, 3D933)

363. Melikyan, K.S. (0). Improving the efficiency of elements, units and optical systems in holographic recognition devices. Sb 10, 122-128. (RZhF, 3/81, 3D1099)

364. Shoydin, S.A. (7). Effect of aberrations caused by system misalignment on the capacity of a holographic memory. OMP, no. 3, 1981, 1-3.

E. HOLOGRAPHY

365. Ayazyan, A.A., I.A. Brovkin, I.I. Lyashko, L.K. Mamuliya, N.G. Nakhodkin, S.M. Savranskiy, I.V. Tarshinov, and N.V. Filina (51). Device for producing optical holograms. Otkr izobr, no. 6, 1981, 805242.

366. Baltrameyunas, R., Yu. Vaytkus, D. Veletskas, and I. Kapturauskas (49). Optically induced change in the refractive index of cadmium sulfide. ZhTF P, no. 6, 1981, 364-368.

367. Bazarskiy, O.V., A.I. Kolesnikov, and Ya.L. Khlyavich (0). Frequency properties of Fresnel probing lenses. RiE, no. 12, 1980, 2491-2497. (RZhRadiot, 3/81, 3Ye543)

368. Boyko, Yu.B., and Ye.A. Tikhonov (5). Optical recording of periodic structures in photopolymer layers. KE, no. 4, 1981, 820-824.

369. Bugayev, A.A. (0). Intensity correlation holography. OiS, v. 50, no. 4, 1981, 627-631.

370. Ginzburg, V.M., and Ye.B. Levitov (0). Study on angular genetic functions for synthesizing contour images in the emission of holographic correlators. RiE, no. 3, 1981, 592-597.

371. Kolyshkina, L.L., Ye.F. Zhigalko (12). Analysis of colored schlieren photographs produced from holograms. ZhTF, no. 3, 1981, 613-617.

372. Konstantinov, V.B., A.A. Kal'derin, and S.A. Pisarevskaya (4). Diffraction efficiency and optical scattering in an emulsion. ZhNiPFiK, no. 2, 1981, 130-132.

373. Kostanyan, A.A., V.A. Medvedev, B.M. Stepanov, and V.N. Filinov (0). Statistical characteristics of diffuse holographic images. Sb 21, 58-64. (RZhF, 4/81, 4D961)

374. Kostanyan, A.A., V.A. Medvedev, B.M. Stepanov, and V.N. Filinov (0). Statistical model for a class of diffuse holographic images. Sb 21, 64-67. (RZhF, 4/81, 4D962)

375. Mandel', V.Ye., T.A. Nechayeva, and A.V. Tyurin (282). Effect of X-center anisotropy on the diffraction efficiency of holograms recorded in KCl using F → X conversions. ZhTF P, no. 8, 1981, 492-293.

376. Mayyer, B.O., and D.I. Stasel'ko (0). Study on hologram elements for correcting pulsed laser wavefronts. IAN Fiz, no. 3, 1981, 663-667.

377. Mikla, V.I., and D.G. Semak (0). Characteristics of charge transfer in chalcogenide glassy semiconductor layers during optical recording. Deposit at VINITI, no. 277-81, 1981. (Cited in IVUZ Fiz, no. 3, 1981, 124)

378. Monosov, Ya.M. (15). Reversible heterogeneous medium for image recording based on rearrangement of the filler. Institut radiotekhniki i elektroniki AN SSSR. Preprint, no. 13/296, 1980, 34 p. (RZhRadiot, 3/81, 3Ye548)

379. Mush, B.S. (0). The "equal observation" principle and economic algorithms for signal processing in quasiholographic pulsed Doppler systems. Sb 20, 16-23.

380. Mush, B.S. (0). Synthesis of a quasiholographic system adaptive to a reflecting surface. Sb 20, 24-28.

381. Okladnikov, N.V., G.L. Brekhovskikh, A.I. Sokolovskaya, and A.A. Garmonov (1). Optical wavefront reconstruction and the diffraction efficiency of dynamic holograms during stimulated optical recording. ZhTF P, no. 6, 1981, 373-377.

382. Safronov, G.S., V.P. Titar', and Ye.Ya. Tomchuk (0). Producing complex digital holograms and using them to reconstruct optical images. RiE, no. 4, 1981, 728-732.

383. Schmalfuss, H. (0). Real-time recording and reconstruction of optical image plane holograms. Principles and applications. Sb 4, 110. (RZhRadiot, 4/81, 4Ye568)

384. Sentyalov, V.I. (0). Evaluating the quality of an image formed with a holographic lens. OiS, v. 50, no. 4, 1981, 766-769.

385. Serdyuk, V.M.. and A.P. Khapalyuk (0). Interference field structure for plane e-m waves in uniaxial crystals. ZhPS, v. 34, no. 3, 1981, 518-523.

386. Shitov, V.G., and G.I. Greysukh (0). Compensating for aberration in the simplest refraction-diffraction optical systems. OiS, v. 50, no. 4, 1981, 786-792.

387. Vlasov, N.G., N.A. Lapshina, S.P. Semenov, E.G. Semenov, and S.G. Yegorova (0). Interference copying of Denisyuk holograms. OiS, v. 50, no. 3, 1981, 597

388. Zambuto, M. (0). Using a holographic method for combined photography. TKiT, no. 2, 1981, 29-31.

389. Zeylikovich, I.S., V.A. Komissaruk, and I.I. Komissaruk (0). Device for producing colored schlieren photographs. Otkr izobr, no. 13, 1981, 819642.

F. LASER-INDUCED CHEMICAL REACTIONS

390. Abdushelishvili, G.I., O.N. Avatkov, A.B. Bakhtadze, V.M. Vetsko, G.I. Tkeshelashvili, V.I. Tomilina, V.N. Fedoseyev, and Yu.R. Kolomiyskiy (0). Selective dissociation of CF_3I in a CO_2 laser IR field in the presence of acceptors. KE, no. 3, 1981, 534-537.

391. Abzianidze, T.G., A.S. Yegiazarov, A.K. Petrov, and Yu.N. Samsonov (295). Isotope-selective dissociation of molecules containing few atoms under the action of pulsed CO_2 laser radiation. KE, no. 3, 1981, 565-570.

392. Alimpiyev, S.S., N.V. Karlov, Sh.Sh. Nabiyev, S.M. Nikiforov, A.M. Prokhorov, and B.G. Sartakov (1). Study on spectral dependencies of induced high vibrational levels in UF_6 molecules. KE, no. 3, 1981, 623-630.

393. Angelov, D.A., P.G. Kryukov, V.S. Letokhov, D.N. Nikogosyan, and A.A. Orayevskiy (72). Efficient two-step photodissociation of DNA bases by high-power UV laser radiation. KE, no. 3, 1981, 595-599.

394. Bagratashvili, V.N., V.S. Letokhov, A.A. Makarov, and Ye.A. Ryabov (0). Multiphoton processes in molecules in an infrared laser field. Itogi nauki i tekhniki. VINITI. Fizika atoma i molekuly. Optika. Magnitnyy rezonans, no. 2, part 1, 1980, 192 p. (RZhF, 3/81, 3D667)

395. Bagratashvili, V.N., Yu.G. Vayner, V.S. Dolzhikov, S.F. Kol'yakov, V.S. Letokhov, A.A. Makarov, L.P. Malyavkin, Ye.A. Ryabov, E.G. Sil'kis, and V.D. Titov (72). Inter- and intramolecular distribution of vibrational energy during multiphoton IR laser excitation. ZhETF, v. 80, no. 3, 1981, 1008-1025.

396. Balakin, A.A., L.V. Lukin, A.V. Tolmachev, and B.S. Yakovlev (67). Determining the mean free path length of a quasi-free electron before localization in liquid isooctane. KhVE, no. 2, 1981, 123-127.

397. Baronov, G.S., A.D. Britov, S.M. Karavayev, A.I. Karchevskiy, S.Yu. Kulikov, A.V. Merzlyakov, S.D. Sivachenko, and Yu.I. Shcherbina (23). High-resolution IR laser spectroscopy of supercooled heavy-element hexafluorides. Institut atomnoy energii. Preprint, no. 3348/12, 1980, 8 p. (RZhF, 3/81, 3D573)

398. Bureyko, S.F., I.L. Danilov, and V.A. Karavayev (12). IR absorption spectrum study on the dissociation of gaseous CCl_3F. Leningradskiy universitet. Vestnik, no. 22, 1980, 42-46. (RZhF, 4/81, 4D1360)

399. Dudov, A.M., S.B. Kormer, S.M. Kulikov, Vik.D. Nikolayev, V.V. Portnyagin, and S.A. Sukharev (0). Study on competition of nonlinear processes in gaseous SF_6 during pumping by 2 nsec pulses. ZhETF P, v. 33, no. 7, 1981, 363-368.

400. Kapustin, V.A., A.V. Pankratov, A.N. Skachkov, V.A. Umrikhin, and A.S. Yakovlev (0). Laser-induced chemical reactions in tetrafluorhydrazine and silicomethane under the action of two-frequency radiation. KhVE, no. 2, 1981, 168-172.

401. Karlov, N.V., B.B. Krynetskiy, V.A. Mishin, A.M. Prokhorov, and O.M. Stel'makh (1). Laser-induced atomic-molecular reactions of ytterbium and europium rare earth metal atoms with HCl molecules. KE, no. 3, 1981, 675-677.

402. Mazurenko, Yu.T., and Yu.A. Rubinov (0). Nonlinear absorption spectra of an SF_6 molecule. OiS, v. 50, no. 3, 1981, 471-474.

403. Shil'nikov, Ye.V. (337). Study on the motion of a gas under the action of focused laser radiation. Sb 22, 74-91.

G. MEASUREMENT OF LASER PARAMETERS

404. Baran, V.M., and G.L. Kononchuk (51). Using the resonance properties of a discharge in systems for stabilizing radiation power. Sb 7, 106-109.

405. Bayer-Helms, F. (NS). Frequency-stabilized lasers with an iodine cell. JMO, no. 10, 1980, 282-287. (RZhF, 4/81, 4D1235)

406. Borodulin, V.I., V.A. Vlasov, Yu.V. Gulyayev, V.P. Konyayev, A.V. Kulymanov, V.T. Potapov, V.P. Sosnin, I.I. Taubkin, A.A. Timofeyev, V.I. Shveykin, and B.B. Elenkrig (0). Fiber optic reflectometer. RiE, no. 4, 1981, 866-869.

407. Bratescu, G.G., T. Tudor, G. Nemes, and M. Ristici (NS). Coherence of sidebands of light with electrically modulated intensity. Sb 5, 15-20. (RZhF, 4/81, 4D319)

408. Domnin, Yu.S., V.M. Tatarenkov, and P.S. Shumyatskiy (140). Automatic phase locking of a laser to the laser reference point frequency in the IR. Sb 1, 63-65. (RZhF, 3/81, 3D1266)

409. Dubik, A., K. Jach, and J. Owsik (NS). Evaluation of laser beam concentration, taking account of diffraction effects. Opt app, no. 3, 1980, 219-225. (RZhF, 3/81, 3D926)

410. Dukhanina, M.I., G.I. Rukman, and A.V. Khromov (0). Measuring the divergence of laser beams with large cross-sections. IT, no. 3, 1981, 34-35.

411. Gasparyan, S.S., and A.A. Dabagyan (0). Instrument for measuring the radiation energy of pulsed lasers. IAN Arm, no. 6, 1980, 462-464. (RZhF, 4/81, 4D1226)

412. Hanek, P. (NS). Testing He-Ne lasers. JMO, no. 11, 1980, 309-310. (RZhF, 3/81, 3D1256)

413. Kalashnikov, S.P., and A.A. Matsveyko (1). Photodiode device for measuring laser radiation power. PTE, no. 2, 1981, 189.

414. Kirilov, I.A., N.A. Toloknov, and L.D. Yazev (12). Determining the latent interval of random sequences. Sb 10, 72-75. (RZhRadiot, 3/81, 3Ye40)

415. Kokodiy, N.G., V.F. Yefimov, V.N. Timoshenko, and G.S. Berlin (34). Ponderomotive device for measuring the energy of a laser. Otkr izobr, no. 12, 1981, 596047.

416. Malyshev, Yu.M., Yu.G. Rastorguyev, V.M. Tatarenkov, and A.N. Titov (140). Studies on a new frequency standard in the infrared. Sb 1, 66-71. (RZhF, 3/81, 3D1257)

417. Mogil'nitskiy, B.S., Yu.D. Kolomnikov, V.G. Gol'dort, A.Yu. Gusev, and A.E. Om (0). Using an He-Ne/I_2 laser as a frequency standard in the visible spectral region. ZhTF P, no. 5, 1981, 257-261.

418. Muller, Ya.N., and V.A. Khrustalev (327). Measuring the unsaturated gain coefficient of an He-Ne laser with transverse microwave pumping. KE, no. 3, 1981, 661-663.

419. Nikol'skiy, A.G., and M.A. Rytov (0). Device for adjusting optical elements. Author's certificate USSR, no. 756336, 15 Aug 1980. (RZhRadiot, 3/81, 3Ye331)

420. Zagidullin, R.Sh., V.N. Rozhdestvin, and M.V. Soyuzov (0). Stabilizing the characteristics of laser radiation under pulse sequence conditions. Sb 10, 67-71. (RZhF, 4/81, 4D1232)

H. LASER MEASUREMENT APPLICATIONS

1. Direct Measurement by Laser

421. Ageyev, V.A., A.V. Kolesnik, A.A. Yankovskiy, and Yu.V. Khlopkov (587). Device for monitoring coating thicknesses. Otkr izobr, no. 13, 1981, 819586.

422. Alentsev, B.M., V.M. Konobeyev, L.A. Kosovskiy, G.P. Osokin, and A.P. Romashkov (0). Sample means for measuring the dynamic parameters of laser radiation transducers. IT, no. 3, 1981, 31-32.

423. Andrushchak, Ye.A., N.N. Yevtikhiyev, S.A. Pogozhev, V.L. Preobrazhenskiy, and N.A. Ekonomov (161). Acoustic vibrations in antiferromagnetic resonators. Akusticheskiy zhurnal, no. 2, 1981, 170-178.

424. Apostol, D., I. Apostol, R. Dabu, V. Draganescu, A. Harsany, I.N. Mihailescu, M. Moldovan, and M. Sandu (NS). Device for schlieren studies on the interaction of laser radiation with a plasma and solid targets in ambient gases. RRP, no. 6, 1980, 689-692. (RZhF, 3/81, 3G504)

425. Aref'yev, I.M., A.P. Yes'kov, K.V. Mikhaylova, and A.V. Peshkov (558). Recording the antigen-antibody reaction by laser light. Laboratornoye delo, no. 6, 1980, 357-360.

426. Aukhiyer, A., and V.B. Konstantinov (4). Possibility of studying the velocity distribution in liquid flows by a combination of Doppler holography and speckle photography. Fiziko-tekhnicheskiy institut AN SSSR. Preprint, no. 688, 1980, 8 p. (RZhMekh, 3/81, 3B1217)

427. Aukhiyer, A., S.B. Gurevich, V.B. Konstantinov, and L. Marti (4). Studying stationary flows in a liquid by Doppler holography. Fiziko-tekhnicheskiy institut AN SSSR. Preprint, no. 689, 1980, 11 p. (RZhMekh, 3/81, 3B1222)

428. Bakos, J.S. (NS). Plasma diagnostics with lasers. Kozponti fizikai kutato intezet, no. 119, 1980, 47 p. (RZhF, 3/81, 3G500)

429. Balakhanov, M.V. (140). Measuring the scattering of shortwave e-m radiation under conditions of acoustic instability. Sb 1, 76-87. (RZhF, 3/81, 3Ye1302)

430. Batrakov, A.S. (0). Laser accelerometers. Sb 11, 218-253.

431. Batyrev, R.I., S.I. Gdalin, B.F. Zaretskiy, A.S. Kechek'yan, Yu.V. Popov, and V.G. Semenov (0). Method of determining the quality of a polymer film. Otkr izobr, no. 13, 1981, 819639.

432. Bayev, V.K., A.N. Bazhaykin, A.A. Buzukov, and B.P. Timoshenko (0). Qualitative characteristics of flare development during fuel injection in a medium with up to 10 atmospheres back pressure. ZhPMTF, no. 2, 1981, 66-70.

433. Baykov, S.S., G.L. Kiselev, and A.M. Lachugin (0). Method and device for measuring the amplitude of vibrations in electromechanical transducers. Sb 23, 113-117.

434. Belousova, I.M., A.S. Gorshkov, A.V. Zolotov, and I.P. Ivanov (7). Laser interferometer for measuring deformations in the earth's crust. OMP, no. 4, 1981, 24-26.

435. Berndt, K., and D. Palme (0). Synchroscan streak camera system for fluorescence studies with mode-locked c-w dye lasers. Sb 4, 163. (RZhRadiot, 3/81, 3Ye435)

436. Blanter, B.E., D.P. Luk'yanov, Yu.V. Filatov, and A.M. Yudin (0). Device for marking angles. Otkr izobr, no. 4, 1981, 800622.

437. Bol'shakov, O.P., T.A. Il'inskaya, V.L. Kazak, and I.M. Nagibina (353,30). Morphometry of anatomical objects using a holographic interferometry method. Arkhiv anatomii, gistologii i embriologii, no. 3, 1981, 93-97.

438. Borisov, Ye.N., and A.L. Osherovich (0). Measuring the lifetime of the 7^3S_1 level in mercury. OiS, v. 50, no. 4, 1981, 631-632.

439. Boyko, V.M., A.I. Gulidov, G.Ye. Lushchayev, A.N. Papyrin, A.P. Petrov, V.M. Fomin, and Yu.A. Shitov (193). Recoil of short rods from a solid obstruction. Institut teoreticheskoy i prikladnoy mekhaniki SOAN. *Preprint*, no. 28, 1980, 47 p. (RZhMekh, 3/81, 3V491)

440. Butusov, M.M. (0). Holographic interferometers for studying deformations and vibrations. Sb 11, 184-218.

441. Daehne, S., W. Becker, M. Scholz, K. Teuchner, H. Lucht, and H. Schneider (NS). Pulsed laser fluorimeter. Feingeraetechnik, no. 10, 1980, 463-466. (RZhRadiot, 3/81, 3Ye448)

442. Dalinenko, N.K., V.P. Korotun, Yu.V. Osipov, V.N. Popov, and L.P. Shusterman (110). Studying the resolving power of dissectors by a laser interference resolution meter. IVUZ Priboro, no. 4, 1981, 74-76.

443. Derzhiyev, V.I., V.S. Marchenko, and S.I. Yakovlenko (184). Energy balance in a plasmoid dispersing in a vacuum. I-FZh, v. 40, no. 3, 1981, 402-409.

444. Eisfeld, F. (0). Studying the agitation of a highly turbulent flame by holographic interferometry and a revolving-mirror camera. Sb 4, 111. (RZhRadiot, 4/81, 4Ye585)

445. Garstka, J. (NS). Lasers in quality control and measuring technology. Pomiary, Automatyka, Kontrola, no. 12, 1980, 420-421,447. (RZhRadiot, 4/81, 4Ye381)

446. Gavrilov, B.M., and B.G. Zemskov (0). Rapid processing of Mössbauer spectra in the LP-4900 multichannel pulse analyzer. Deposit at VINITI, no. 5451-80, 24 Dec 1980, 28 p. (RZhF, 4/81, 4V650)

447. Germer, R., O. Luehrs, and R. Schuett (0). X-ray flash studies of shock wave interaction. Sb 4, 323. (RZhRadiot, 3/81, 3Ye438)

448. Gordetskiy, S.F. (0). Determining the relative movement of geodesic points using laser devices. Geodeziya i kartografiya, no. 12, 1981, 27-30.

449. Gorshkov, V.V., G.A. Grigor'yev, V.K. Klinkov, and M.A. Meretukov (152). Measuring variation in absorption coefficients with a multiple beam interferometer. PTE, no. 2, 1981, 192-196.

450. Grechka, G.P., D.P. Luk'yanov, and A.V. Mochalov (0). Laser gyrocompass practice. Sb 11, 254-292.

451. Ivanov, M.B., G.V. Kolarov, and D.V. Stoyanov (NS). Laser Doppler velocimeter. Author's certificate Bulgaria, no. 26145, 26 Feb 1979. (RZhRadiot, 3/81, 3Yel01)

452. Ivanov, V.P., V.A. Blokhin, V.V. Babenko, and L.F. Kozlov (0). Laser Doppler velocimeter with an electronic signal recording system. Deposit at VINITI, no. 5449-80, 24 Dec 1980, 20 p. (RZhF, 3/81, 3D1372)

453. Jakim, J., and J. Gardasky (NS). Using a laboratory laser anemometer to measure the velocity of the air flow between ventilator blades. JMO, no. 11, 1980, 326-328. (RZhF, 3/81, 3D1371)

454. Khristenko, A.S., and Yu.G. Zolotoy (612). Experimental study on one-sheet hyperboloid vibrations using holographic interferometry. Tr 2, 111-116.

455. Kirillov-Postnikov, S.A. (0). Holography in medical research and practice. Sb 10, 129-136. (RZhRadiot, 3/81, 3Ye517)

456. Kiryushcheva, I.V., and V.A. Rabinovich (0). Holographic correlation method for monitoring microscopic deformations. IT, no. 4, 1981, 20-22.

457. Kiyachenko, Yu.F., and I.K. Yudin (140). Optical-mixing correlation spectrometer. Sb 1, 25-30. (RZhF, 3/81, 3D966)

458. Kopilevich, Yu.I., N.N. Rozanov, V.A. Smirnov, and G.B. Sochilin (0). Using a nonlinear amplification effect for small angle scattering to study weak optical inhomogeneities. OiS, v. 50, no. 3, 1981, 515-520.

459. Koshevoy, V.V. (0). Using holography in acoustic testing technology. Sb 10, 13-22. (RZhRadiot, 3/81, 3Ye525)

460. Kostyukevich, Ye.A., and L.Ya. Min'ko (0). Two mirror self-collimating interferometer with field visualization. ZhPS, v. 34, no. 3, 1981, 551-555.

461. Kozenkov, V.M., Ye.D. Kvasnikov, Ye.G. Katyshev, and V.A. Barachevskiy (174). Eliminating phase distortions in holographic interferometric devices. ZhNiPFiK, no. 2, 1981, 130-132.

462. Kuchikyan, L.M., P.I. Sidak, and V.N. Chistov (0). Measuring losses in fiber lightguides by end reflection. OiS, v. 50, no. 3, 1981, 577-579.

463. Kulakov, S.V. (0). Signal and noise at the output of an acoustooptic spectrum analyzer. Sb 20, 54-62.

464. Kulikov, V.Ye. (0). Designing optical systems to operate together with lasers. Sb 10, 84-96. (RZhF, 4/81, 4D774)

465. Kutarev, A.A., Ye.Ts. Braslavskiy, V.T. Markin, V.G. Zakharov, V.A. Mitin, S.I. Rodionov, and T.A. Bolotina (0). Commercial laser device. Otkr izobr, no. 17, 1981, 10561.

466. Kutik, M. (NS). Electronic methods for measuring deviations from a laser-designated bearing. JMO, no. 10, 1980, 292-294. (RZhF, 3/81, 3D1361)

467. Lekhtsiyer, Ye.N., and Ye.B. Shelemin (0). Holographic device for measuring the parameters of microscopic objects. Otkr izobr, no. 15, 1981, 824112.

468. Lezhnev, N.B. (55). Acoustic spectrometer for studying fluids in the 10 GHz range. Akusticheskiy zhurnal, no. 2, 1981, 275-284.

469. Lisin, O.G. (0). Accuracy of measuring the spatial displacement of diffuse objects by data from holographic interferograms. OiS, v. 50, no. 3, 1981, 521-531.

470. Litvinenko, A.S. (0). Method of monitoring surface shapes. Otkr izobr, no. 15, 1981, 823848.

471. Lodes, A. (NS). Analyzing the stochastic data of velocity from laser Doppler measurements in a steady flow of a liquid. JMO, no. 11, 1980, 321-323. (RZhMekh, 3/81, 3B1213)

472. Lodes, A. (NS). Using a laser Doppler anemometer to determine the statistical characteristics of turbulence. JMO, no. 12, 1980, 339-340.

473. Logozinskiy, V.N. (0). Fluctuations in the phase difference of opposed waves in a fiber optic ring interferometer. KE, no. 4, 1981, 895-898.

474. Luk'yanov, D.P. (0). Laser velocimeters. Sb 11, 151-184.

475. Luk'yanov, D.P., A.V. Mochalov, and Yu.V. Filatov (0). Recording of angular displacements and velocities. Sb 11, 292-343.

476. Luk'yanov, D.P. (0). Synchronous operation of a ring gas laser. Sb 11, 343-376.

477. L'vov, V.S., A.A. Predtechenskiy, and A.I. Chernykh (75). Bifurcation and randomness in a system of Taylor eddies: a full-scale numerical experiment. ZhETF, v. 80, no. 3, 1981, 1099-1121.

478. Lysenko, V.I., and A.A. Maslov (0). Effect of extreme cooling on transition in a supersonic boundary layer. MZhiG, no. 2, 1981, 43-49.

479. Malyutin, A.I., and O.L. Rostovtsev (23). Optical interferometer for measuring low densities of a plasma. Institut atomnoy energii. Preprint, no. 3325/14, 1980, 16 p. (RZhF, 4/81, 4D822)

480. Mashinskiy, E.I., and V.A. Khanov (0). Laser interference seismic detector. Avtometriya, no. 5, 1980, 108-109.

481. Mikhaylova, T.P., L.A. Sakayeva, Yu.A. Fedorov, V.I. Bobrik, and A.K. Toropov (0). Universal high-resolution Fabry-Perot interferometer with a laser-stabilized passband. Deposit at VINITI, no. 5450-80, 24 Dec 1980, 20 p. (RZhF, 4/81, 4D817)

482. Miroshnichenko, G.P. (0). Susceptibility tensor for spin symmetric molecules in a resonant IR field. OiS, v. 50, no. 4, 1981, 674-681.

483. Molotok, V.V. (0). Spread function of an actual acoustooptic spectrum analyzer. Sb 20, 63-70.

484. Mukhamedyarov, R.D., N.S. Dudorov, Yu.A. Kovyazich, V.A. Novikov, and B.V. Shul'gin (42). Device for measuring the deflection angle of objects. Otkr izobr, no. 11, 1981, 815489.

485. Nabatov, A.V. (0). Lecture demonstration to accompany a presentation of the Abbe method for determining the resolving power of a microscope. Deposit at VINITI, no. 819-81, 1981. (Cited in IVUZ Fiz, no. 4, 1981, 124)

486. Nabokin, P.I. (69). Displacement of magnetic domain walls in garnet films in $2x10^{-5}$ - 4 erg fields. ZhTF P, no. 5, 1981, 308-312.

487. Nagibina, I.M., T.A. Il'inskaya, and V.L. Kazak (0). Study and practical application of holographic topographic interferograms. ETP, no. 4, 1980, 365-375. (RZhF, 3/81, 3D1100)

488. Novikov, V.P., and M.A. Novikov (426). Using an acoustooptic method to measure small absorption coefficients in crystals. IAN Fiz, no. 3, 1981, 651-653.

489. Orlov, R.A. (0). Determining the interrelationship of spatially compatible antennas by radioholography. Sb 20, 29-36.

490. Panova, A.N., K.V. Shakhova, L.V. Udovichenko, and N.V. Shiran (0). Thermal stability of active centers in CsI(Na) crystals. ZhPS, v. 34, no. 3, 1981, 501-504.

491. Pasmurov, A.Ya. (0). Measuring the parameters of scattering objects by radioholography. Sb 20, 37-46.

492. Pejchal, V. (NS). Applied laser anemometry. JMO, no. 11, 1980, 324-326. (RZhF, 3/81, 3D1369)

493. Petrakiev, A., S.Z. Mohamed, and V. Kapicka (0). Using high-speed high-resolution spectrographic methods to study short electrical discharges and laser pulses. Sb 4, 203. (RZhRadiot, 4/81, 4Ye436)

494. Petru, F., and Z. Vesela (NS). Principles of laser interferometers. JMO, no. 9, 1980, 259-260. (RZhF, 3/81, 3D955)

495. Pisarev, V.S., V.V. Yakovlev, V.P. Shchepinov, and V.O. Indisov (16). Using C-optimality criteria for selecting the set-up for a holographic interferometer to determine deformations. ZhTF, no. 4, 1981, 869-871.

496. Popescu, I.M., A. Brunfeld, and D. Atanasiu (NS). Designing the optics of laser interferometers. BIPG. Seria electrotehnica, no. 1, 1980, 21-30. (RZhF, 4/81, 4D813)

497. Popov, V.I., and N.M. Snegerev (0). Device for measuring small angular velocities. Otkr izobr, no. 4, 1981, 800880.

498. Rokosova, L.A., and I.A. Rokos (140). Single-beam, multiple-beam and ring polarization interferometers and some examples of their application. Sb 1, 31-42. (RZhF, 3/81, 3D957)

499. Rokosova, L.A., and I.A. Rokos (140). Dual-beam laser interferometers with enhanced sensitivity. Sb 1, 43-56. (RZhF, 3/81, 3D1376)

500. Rondarev, V.S., and S.A. Smirnov (0). Using a phase-contrast defocusing method to study impurity inhomogeneities in semiconductor crystals. OiS, v. 50, no. 3, 1981, 569-573.

501. Rondarev, V.S., and S.K. Stafeyev (0). Feasibility of determining the degree of compensation for electronic GaAs using IR laser microscopy. ZhPS, v. 34, no. 4, 1981, 626-629.

502. Rybakov, A.S. (0). Code-time interval converter for pulsed laser ranging systems. AN LatSSR. Izvestiya, no. 12, 1980, 113-119. (RZhF, 4/81, 4D1378)

503. Skribanov, Ye.V. (0) Device for certifying shaft angle encoders. IT, no. 3, 1981, 30-31.

504. Spornik, N.M. (0). Holographic interferometer with a diffraction grating. ZhPS, v. 34, no. 3, 1981, 534-536.

505. Stanciu, G.A., I.M. Popescu, C.M. Stoichita, E. Budianu, and E. Vashe (NS). Laser digital scanning study on the characteristics of a silicon p^+-n photodiode. BIPG. Seria electrotehnica, no. 2, 1980, 11-15. (RZhF, 4/81, 4D1382)

506. Stanciu, I., St. Cazacu, and T. Necsoiu (NS). Special optical systems used in laser apparatus. SCF, no. 10, 1980, 1111-1133. (RZhF, 4/81, 4D902)

507. Suminov, V.M., A.A. Grebnev, Ye.I. Grebenyuk, and G.R. Krechman (229). Device for monitoring surface defects in rotating bodies. Otkr izobr, no. 3, 1981, 798567.

508. Svagr, V. (NS). Measuring deformations by an He-Ne laser with electronic detectors. JMO, no. 10, 1980, 295-296. (RZhF, 3/81, 3D1362)

509. Vagner, Ye.T. (0). Monitoring the geometric parameters of objects by a ring-structured laser beam. IT, no. 4, 1981, 16-18.

510. Valuyev, A.S., Yu.V. Vizirov, A.I. Spiridonov, and L.S. Khrenov (7). Contemporary trends in the Soviet Union and abroad in the production of theodolites. OMP, no. 3, 1981, 60-62.

511. Varvouch, D., and F. Slamenik (NS). Optical method for enhancing the signal of a laser velocimeter. JMO, no. 12, 1980, 331-333. (RZhF, 4/81, 4D1380)

512. Veretennikov, V.A., V.A. Gribkov, E.Ya. Kononov, O.G. Semenov, and Yu.V. Sidel'nikov (72,1). Study on the dynamics of a low-induction vacuum spark discharge using a laser schlieren method. Fizika plazmy, no. 2, 1981, 455-463.

513. Vitrichenko, Z.A., and N.I. Shamarin (68). Study of the second 6-meter parabolic mirror under actual working conditions. DAN SSSR, v. 225, no. 1, 1980, 62-64. (RZhRadiot, 3/81, 3Ye443)

514. Vlad, V.I., M.V. Udrea, and D. Popa (0). Pulsed interferometry and holography in the nanosecond range using a nitrogen laser. Sb 4, 113. (RZhRadiot, 4/81, 4Ye566)

515. Volkov, V.I., V.A. Mukhin, and V.Ye. Nakoryakov (159). Study on the flow pattern in a porous medium. ZhPKh, no. 4, 1981, 838-842.

516. Vol'vovskiy, I.D. (0). Reversed count pulse generator from a quadrature pulse train. PTE, no. 2, 1981, 119-120.

517. Yenin, V.N., and V.F. Kuznetsov (24). Discrete dynamic model of a laser gyroscope. IVUZ Priboro, no. 3, 1981, 49-53.

518. Yevtikhiyev, N.N., and O.S. Yesikov (0). Acoustooptic holographic processors. Sb 10, 33-54. (RZhF, 4/81, 4D986)

519. Zabrodskiy, A.Kh., V.S. Ivanov, V.V. Kon'kov, I.V. Kryukova, B.M. Stepanov, V.M. Tarasov, and V.A. Chapnin (0). Calibrated monochromatic radiation sources at 0.69 and 1.06 μm wavelengths. IT, no. 4, 1981, 31-32.

520. Zhilkin, V.A. (0). Combining holographic interferometry with a moiré band method. Sb 24, 102-112. (RZhMekh, 4/81, 4V1434)

521. Zhilkin, V.A., and V.B. Zinov'yev (0). Possible methods for interpreting volume holographic interferograms recorded at the surface of metallized solutions. Sb 24, 113-120. (RZhMekh, 4/81, 4V1433)

522. Zhuravlev, Ye.V., O.V. Karpov, and G.D. Petrov (140). Effect of the curve of the wavefront of laser radiation on the spectral characteristics of the scattering cross-section. Sb 1, 57-62. (RZhF, 3/81, 3D547)

523. Zinov'yev, Yu.S., and A.Ya. Pasmurov (0). Using the principles of holography to analyze radar stations with a synthetic aperture. Sb 20, 3-15.

524. Zubov, V.A., A.V. Krayskiy, T.T. Sultanov, and A.G. Khlebnikov (1). Effect of transparency characteristics on the correlation function for pattern recognition. KSpF, no. 4, 1981, 23-28.

2. Laser-Excited Optical Effects

525. Akimov, A.V., A.A. Kaplyanskiy, and A.L. Syrkin (4). Phonon bottleneck in luminescence from CaF_2-Eu^{2+} crystals and anharmonic lifetimes of terahertz acoustic phonons. ZhETF P, v. 33, no. 8, 1981, 410-414.

526. Amiryan, A.S., V.G. Grigoryan, and E.M. Kazaryan (623). Lattice absorption of a weak e-m wave under resonant laser radiation. IAN Arm, no. 3, 1981, 177-185.

527. Askar'yan, G.A., and B.M. Manzon (1). Study on recoil and optical acceleration under the effect of varying duration laser radiation. Fizika plazmy, no. 2, 1981, 255-266.

528. Babakhanyan, E.A., and V.V. Musakhanyan (146,59). Broadening of the energy spectrum for an e-beam in an e-m wave field in a medium. IAN Arm, no. 3, 1981, 186-190.

529. Beluga, I.Sh., B.S. Vinevich, and L.A. Kolosovskaya (0). Distortion in a Gaussian beam by a thermal lens generated in optical elements. OiS, v. 50, no. 3, 1981, 541-545.

530. Botoyev, A.N., and Yu.P. Timofeyev (1). Measuring the quantum yield for electro- and photoluminescence in crystals of ZnS:Cu with Sm, Eu or Tm. KSpF, no. 2, 1981, 32-36.

531. Bulat, L.P. (525). Negative differential thermal e.m.f. in semiconductors at high thermal gradients. ZhTF, no. 4, 1981, 887-888.

532. Domnin, P.I. (12). Interpretation of optoacoustic measurements of vibrational relaxation times of the 00°1 state of CO_2 and in mixtures of CO_2 with N_2 and noble gases under laser excitation. Leningradskiy universitet. Vestnik, no. 22, 1980, 99-101. (RZhF, 4/81, 4D558)

533. Fedoseyev, D.V., I.G. Varshavskaya, A.V. Lavrent'yev, and B.V. Deryagin (287). Formation of metastable carbon phases during rapid graphite cooling. ZhETF P, v. 33, no. 8, 1981, 414-416.

534. Gadomskiy, O.N. (573). Resonant optical superluminescence from the boundary between two media. UFZh, no. 3, 1981, 456-460.

535. Gayevskiy, A.Yu., I.G. Kaplan, and M.A. Ruvinskiy (92,233). Neutron scattering in molecular crystals during high-level optical pumping of excitons. ZhETF, v. 80, no. 3, 1981, 1150-1162.

536. Gel'mukhanov, F.Kh., and A.M. Shalagin (75). Optically induced current in a weakly ionized plasma. KE, no. 3, 1981, 590-594.

537. Gladushchak, V.I., S.A. Moshkalev, Ye.Ya. Shreyder (4). Exciting fluorescence in atomic hydrogen with excimer lasers. ZhTF P, no. 5, 1981, 261-264.

538. Gordeyev, G.V. (4). Absorption of e-m waves by n-Ge in a strong magnetic field. FTP, no. 3, 1981, 583-585.

539. Gorelenok, A.T., I.S. Tarasov, and A.S. Usikov (4). Detecting polarized electroluminescence at 1.3 μm in InP/InGaAsP heterostructures due to external deformations. ZhTF P, no. 8, 1981, 452-457.

540. Ivanter, I.G., and V.V. Lomonosov (23). Polarization and angular distribution of Cerenkov and transient radiation in a strong e-m wave field. ZhETF, v. 80, no. 3, 1981, 879-890.

541. Ivliyev, A.D., and V.Ye. Zinov'yev (42). High-temperature phase transition in neodymium and praseodymium. FTT, no. 4, 1981, 1190-1192.

542. Kapustin, A.P., and S.A. Pikin (13). Memory effects during nematic-smectic phase transitions in an inhomogeneously heated sample. ZhETF P, v. 33, no. 6, 1981, 332-336.

543. Katana, P.K., and V.D. Prodan (151). Two-photon optical edge absorption in semiconductors. FTP, no. 3, 1981, 557-566.

544. Kavalyauskene, G., M. Mikalkyavichyus, V. Rinkyavichyus, K. Tumkyavichyus, and G. Yutsis (0). Study on the relaxation of drop in the photocurrent in PbTe layers. Lit fiz sb, no. 6, 1980, 89-93. (RZhF, 4/81, 4Ye1288)

545. Kozanecki, A., Z. Werner, and H. Rzewuski (Poles). Edge emission enhancement in electron irradiated CdSe. Sb 25, 744-747.

546. Krajicek, V., K. Hamal, V. Kubecek, and P. Schmiedberger (0). Laser-triggered spark gap at atmospheric pressure. Sb 4, 164. (RZhRadiot, 4/81, 4Ye513)

547. Kukhtarev, N.V. (5). Galvanomagnetic and optical properties of the classical superlattice of impurity and radiation defects. Sb 25, 464-466.

548. Levin, G.A. (295). Motion of experimental particles in a nonequilibrium gaseous medium produced by resonant radiation. ZhTF P, no. 7, 1981, 439-442.

549. Nemilov, S.V., and D.K. Tagantsev (7). Effect of light on the viscosity of glassy arsenic trisulfide. FiKhS, no. 2, 1981, 195-202.

550. Pavlyuchko, A.I., G.F. Lozenko, and L.A. Gribov (0). Interpreting the states and analyzing the geometric changes in molecules during anharmonic vibrational excitations. OiS, v. 50, no. 3, 1981, 450-457.

551. Popov, A.K., A.M. Shalagin, V.M. Shalayev, and V.Z. Yakhnin (O). Optically induced diffusion of gases in a nonmonochromatic wave field. OiS, v. 50, no. 3, 1981, 598-600.

552. Schubert, M., and K. Vogler (NS). Experimental and theoretical investigations on the picosecond deactivation process of excited F-centers in KCl. PSS, v. B101, no. 1, 1980, 267-273. (RZhF, 3/81, 3D782)

553. Smirnov, Vl.N. (O). General equation for thermal elasticity of a Cosserat medium under stress. I-FZh, v. 40, no. 3, 1981, 482-488.

554. Tagirov, R.B., and E.Kh. Iskhakova (11). Photodesorption of H_2O molecules from a glass surface and the spectral distribution of its efficiency. IVUZ Fiz, no. 3, 1981, 3-7.

555. Thielemann, W., and H. Neumann (NS). Photoacoustic determination of the internal quantum efficiency of Schottky diodes. PSS, v. A61, no. 2, K123-K126. (RZhF, 4/81, 4Ye1316)

556. Tulupov, A.V. (98). Compton effect in relativistic channeled electrons. ZhTF P, no. 8, 1981, 460-463.

557. Vassilev, Y., M. Karamikhailova, M. Mladenova, and M. Georgiev (NS). Room temperature investigation of the photostimulated afterglow in KCl:Eu^{2+} crystals. PSS, v. B100, no. 2, 1980, 463-471. (RZhF, 4/81, 4D751)

558. Vorozheykina, L.F., V.V. Mumladze, and T.G. Khulordava (39). Radiation color centers in a laser irradiation field. Sb 25, 554-557.

559. Zavetova, M., P. Doubrava, and A. Abraham (Czechs). Photoinduced changes in the IR spectra of amorphous As-Se films. Sb 25, 859-862.

3. Laser Spectroscopy

560. Abolin'sh, Ya.Ya., S.V. Karpov, and A.A. Shultin (12). Data on disordering of NO_3^- ions in phases I, II and III of ammonium nitrate, from Raman spectroscopy. FTT, no. 4, 1981, 1155-1157.

561. Ageyev, B.G., V.P. Lopasov, Yu.N. Ponomarev, B.A. Tikhomirov, and I.S. Tyryshkin (0). Simultaneous measurements of the absorption coefficient of water vapor by high-speed and optoacoustic laser spectrometers. Deposit at VINITI, no. 5057-80, 1 Dec 1980, 11 p. (RZhF, 3/81, 3D724)

562. Aleksandrovskaya, N.G., V.K. Dobrokhotova, I.N. Chukanova, and Yu.A. Tiunov (0). Study on the phosphorescent spectra of 1.4-dibromonaphthalene single crystals doped with acenaphthene-quinone. ZhPS, v. 34, no. 4, 1981, 650-655.

563. Anan'yeva, G.V., A.M. Korovkin, A.B. Kudryavtsev, A.K. Kupchikov, A.I. Ryskin, and A.A. Sobol' (0). Phase transition of fergusonite-sheelite and the Raman spectra of $LaNbO_4$ crystal and $(CaWO_4)_{1-x}(LaNbO_4)_x$ solid solution. FTT, no. 4, 1981, 1079-1086.

564. Antipin, A.A., and V.S. Zapasskiy (0). The Faraday effect and optical recording of EPR in crystals and glass. OiS, v. 50, no. 3, 1981, 486-493.

565. Aristov, A.V., and V.S. Shevandin (0). Spectroscopic study on a reversible photochemical product in rhodamine solutions under two-step pumping. OiS, v. 50, no. 3, 1981, 587-589.

566. Atakhodzhayev, A.K., A. Zhumabayev, L.N. Ostapchuk, F.Kh. Tukhvatullin, and V.Ye. Pogorelov (0). Raman spectroscopy study on the orientational motion of cyclohexane molecules. DAN Uz, no. 9, 1980, 34-36. (RZhF, 3/81, 3D652)

567. Avram, N., A. Lucaci, and M. Pop (NS). Determining the anharmonicity constants of polyatomic molecules by IR and Raman spectra. Analele *Universitatii Timisoara. Serie stiintele fizica-chimie*, v. 17, no. 1, 1979, 1-7. (RZhF, 4/81, 4D451)

568. Baltrameyunas, R., Yu. Vaytkus, and V. Nyunka (0). Luminescence of an electron-hole plasma in CdSe single crystals from internal and surface excitation. Lit fiz sb, no. 5, 1980, 95-103. (RZhF, 4/81, 4D730)

569. Bekov, G.I., Ye.P. Vidolova-Angelova, L.N. Ivanov, V.S. Letokhov, and V.I. Mishin (72). Laser spectroscopy of sharp two-step self-ionized states in an ytterbium atom. ZhETF, v. 80, no. 3, 1981, 866-878.

570. Belokon', M.V., A.N. Rubinov, A.V. Adamushko, V.N. Lopatko, N.V. Mazayev, and A.Ye. Kravchenko (0). Using a c-w dye laser to detect rare earth atoms. ZhPS, v. 34, no. 3, 1981, 416-419.

571. Bobrov, A.V., Ya.M. Kimel'fel'd, and L.M. Tumanova (0). Study on chemisorption of unsaturated hydrocarbons by nickel and silver films using a Raman scattering method. ZhFKh, no. 4, 1981, 1004-1009.

572. Chmel', A.Ye., I.I. Novak, V.M. Zolotarev, and V.I. Aleksandrov (0). Optical element from fianite ($ZrO_2 \cdot Y_2O_3$) for producing Raman and frustrated total internal reflection spectra. ZhPS, v. 34, no. 3, 559-561.

573. Dneprovskiy, V.S., V.I. Klimov, and Ye.D. Martynenko (2). Spectral and temporal properties of exciton luminescence in highly excited CdS crystals. FTT, no. 3, 1981, 819-826.

574. First Inter-Republic Seminar on Studying Physical Processes in Light Sources for Spectral Analysis, Vil'nyus, 20 May 1980. Lit fiz sb, no. 2, 1981, 103-109.

575. Gadonas, R., R. Danelyus, and A. Piskarskas (49). Absorption spectrometer with picosecond resolution using an optical parametric oscillator and microcomputer. KE, no. 3, 1981, 669-671.

576. Gaysler, V.A., V.M. Zaletin, A.F. Kravchenko, and A.S. Terekhov (0). Anomalous behavior of the phonon spectrum of HgI_2 subjected to uniaxial pressure. OiS, v. 50, no. 3, 1981, 590-592.

577. Gershenzon, Yu.M., S.D. Il'in, O.P. Kishkovich, and V.B. Rozenshteyn (67). Relaxation and modulation effects in IR laser magnetic resonance spectroscopy. KE, no. 3, 1981, 631-634.

578. Golonzhka, V.N., I.S. Gorban', and A.F. Gumenyuk (51). Surface luminescence in $Ba_2NaNb_5O_{15}$ ferroelectric crystal. FTT, no. 4, 1981, 1193-1195.

579. Gorokhovskiy, A.A., Ya.V. Kikas, V.V. Pal'm, and L.A. Rebane (492). Hole-burning characteristics in the spectra of organic molecules in glassy matrices. FTT, no. 4, 1981, 1040-1047.

580. Gusev, Yu.L., A.F. Ivanov, S.I. Marennikov, and L.N. Sinitsa (0). Intracavity laser spectrometer based on an LiF crystal F_2^- color center laser. Sb 3, 113-115. (RZhF, 4/81, 4D1365)

581. Gutkin, A.A., and V.Ye. Sedov (4). Electroluminescence of Au-thin oxide-n-GaAs structures with forward biasing. FTP, no. 3, 1981, 610-612.

582. Heumann, E., I. Kapp, S. Rentsch, and W. Triebel (Russ transliteration of German names: Goymann, Rench, V. Tribel'). Picosecond two-photon absorption spectra of diphenyl and chloronaphthalene in solution as a function of polarization. ZhPS, v. 34, no. 3, 1981, 481-486.

583. Kasatkin, V.A., F.P. Kesamanly, and B.Ye. Samorukov (29). Photoluminescence of thermal processed gallium phosphide doped with praseodymium and ytterbium. FTP, no. 3, 1981, 616-618.

584. Kolerov, A.N., B.V. Melkumyan, and V.V. Seyku (140). Laser spectrum analyzers in the IR. Sb 1, 16-20. (RZhF, 3/81, 3D1359)

585. Kolobkov, V.P., V.D. Khalilev, A.A. Shultin, N.M. Semetskaya, V.I. Vakhrameyev, I.A. Zhmyreva, S.V. Karpov, P.I. Kudryashov, and I.N. Morozova (7,213). Spectral luminescent study on fluorogermanate glass doped with europium. FiKhS, no. 2, 1981, 203-208.

586. Korotkov, P.A., and G.N. Dmitrik (0). Exciting spontaneous and stimulated Raman scattering with a train of giant pulses. OiS, v. 50, no. 4, 1981, 632-634.

587. Krokhmal', A.P. (51). Parameters of excitons coupled with neutral nitrogen atoms in SiC(6H). UFZh, no. 3, 1981, 418-421.

588. Mauring, K., A. Suysalu, and R. Avarmaa (0). Resonantly burned out quasistationary gap in the fluorescence spectrum of protochlorophyll. IAN Est, no. 4, 1980, 426-428. (RZhF, 4/81, 4D694)

589. Melishchuk, M.V., Ye.A. Tikhonov, and M.T. Shpak (5). Nonstationary mechanism in quasilinear spectra of impurity molecules in disordered matrices. FTT, no. 3, 1981, 943-945.

590. Mostovaya, L.M. (72). Raman study on the absorption characteristics of unsaturated hydrocarbons in nickel and silver films at low temperatures. Institut spektroskopii AN SSSR. Preprint, no. 13, 1980, 19 p. (RZhF, 3/81, 3D662)

591. Naboykin, Yu.V., Yu.A. Tiunov, and I.N. Chukanova (36). Study on the kinetics of quenching phosphorescence of acenaphthenequinone in acenaphthene at 4.2 - 300 K. UFZh, no. 3, 1981, 493-494.

592. Nikitenko, V.A., S.G. Stoyukhin, V.I. Popolitov, and Yu.M. Mininzon (0). Luminescence of CuI single crystals. ZhPS, v. 34, no. 4, 1981, 635-638.

593. Petukh, M.L. (0). Spectral analysis with laser sampling. Lit fiz sb, no. 2, 1981, 106-107.

594. Romanovskaya, G.I., L.S. Atabekyan, and A.K. Chibisov (184). Role of complex shaped uranyl ions in photochemical electron transfer reactions. TiEKh, no. 2, 1981, 282-286.

595. Sharov, Ye.M. (7). Feedback structure in the system of a scanning Fourier spectrometer. OMP, no. 3, 1981, 8-9.

596. Shmiglyuk, M.I., P.I. Bardetskiy, and Ye.V. Vitiu (0). Study on the exciton spectrum in a Cu_2O crystal using a double optical resonance method. OiS, v. 50, no. 4, 1981, 796-798.

597. Smirnov, A.N., A.Yu. Tsivadze, G.V. Tsintsadze, Ts.G. Khugashvili, and R.N. Shchelokov (0). Vibrational spectra of cadmium and zinc coordination compounds with diethylacetamide. ZhNKh, no. 12, 1980, 3232-3240. (RZhF, 4/81, 4D459)

AD-A116 693 DEFENSE INTELLIGENCE AGENCY WASHINGTON DC DIRECTORAT--ETC F/G 20/5
BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS, NUMBER 52, MARCH - A--ETC(U)
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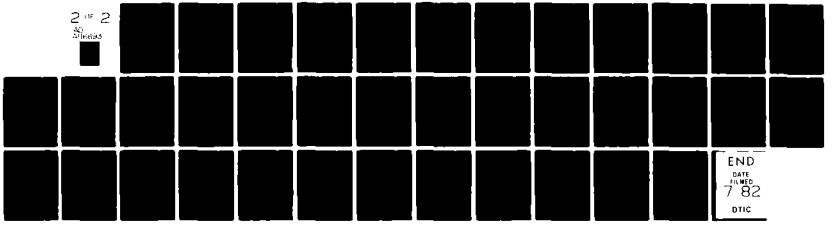

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598. Stanciulescu, C., R.Z. Bobulescu, A. Surmeian, D. Popescu, J.I. Popescu, and C.B. Collins (NS). Hertzian and optical impedance spectroscopy. Part 1. RRP, no. 7, 1980, 783-791. (RZhF, 4/81, 4D942)

599. Voropay, Ye.S., A.M. Sarzhevskiy, and P.A. Torpachev (87). Experiment in multiphoton absorption spectroscopy. Part 1. Indirect methods for studying two-photon absorption. Deposit at VINITI, no. 5274-80, 15 Dec 1980, 50 p. (RZhF, 3/81, 3D1352)

600. Yakovenko, S.Ye., and V.I. Naumenko (87). Studying the molecular motion in nematic liquid crystals by the Raman spectra. Deposit at VINITI, no. 151-81, 13 Jan 1981, 12 p. (RZhF, 4/81, 4I159)

601. Zhuk, D.V., D.K. Otorbayev, V.N. Ochkin, S.Yu. Savinov, and N.N. Sobolev (0). Study on Λ-doubling in the spectrum of the second positive system of N_2. OiS, v. 50, no. 3, 1981, 592-595.

602. Zhurauskene, E.A. (49). Effect of binary solvents on the rate of energy relaxation processes in quinoline molecules. Lit fiz sb, no. 2, 1981, 91-94.

603. Zlobina, L.I., Ye.A. Yevdishchenko, and V.A. Yurin (0). Analyzing the Raman spectra in triglycine sulfate by the Kramers-Kronig relation. Sb 26, 67-71. (RZhF, 4/81, 4D655)

J. BEAM-TARGET INTERACTION

1. Metal Targets

604. Artyunyan, S.G., G.A. Galechyan, K.R. Darbinyan, and M.G. Oganesyan (521). Interferometric study on an optical breakdown plasma at the surface of a metal target in air. IAN Arm, no. 1, 1981, 58-63.

605. Belotelov, I., and V. Zarubin (0). Laser welding and cutting of materials. Tekhnika i vooruzheniye, no. 4, 1981, 14-15.

606. Khina, M. (0). Laudable laser. Science in the USSR, no. 4, 1981, 76-81.

607. Kostrubiec, F. (NS). Laser method for producing electric micro-connections. Elektronika [Poland], no. 7-8, 1980, 22-26,4. (RZhRadiot, 3/81, 3Ye417)

608. Kyashkin, V.M., G.S. Zhdanov, L.I. Mirkin, and Yu.G. Gol'der (0). Structure and properties of amorphized alloys obtained under laser action. Sb 27, 40-46. (RZhF, 3/81, 3Ye898)

609. Lakusta, K.V. (607). Applicability of a hyperbolic equation to thermal conductivity in symmetric solids. TVT, no. 2, 1981, 377-380.

610. Melamed, L.E. (575). Heating a massive body by a circular heat source, allowing for surface heat transfer. I-FZh, v. 40, no. 3, 1981, 524-526.

611. Mil'to, A.A., and N.S. Talala (0). Gas laser lay-out marking device with programmed operation. Mekhanizatsiya i avtomatizatsiya proizvodstva, no. 3, 1981, 15-16.

612. Zubov, V.I., V.M. Krivtsov, I.N. Naumova, and Yu.D. Shmyglevskiy (337). Interaction of Nd laser radiation with an aluminum vessel and its vapor. Sb 22, 56-73.

2. Dielectric Targets

613. Artem'yev, Ye.F., A.G. Murzin, and V.A. Fromzel' (0). Optical stability of ytterbium-erbium glass at 1.54 μm. OiS, v. 50, no. 3, 1981, 580-582.

614. Arushanov, S.Z., V.N. Kosolobov, M.F. Koldunov, and V.M. Mizin (0). Temperature dependence of optical breakdown thresholds for transparent liquid dielectrics. IAN Fiz, no. 4, 1981, 658-661.

615. Babadzhan, Ye.I., V.V. Kosachev, and Yu.N. Lokhov (0). Breakdown of air by a laser pulse in front of the input surface of a solid transparent dielectric. FiKhOM, no. 2, 1981, 153-155.

616. Balitskas, S.K., and E.K. Maldutis (506). Internal destruction of optical glass by repeated laser radiation. KE, no. 4, 1981, 902-903.

617. Bykovskiy, Yu.A., A.V. Mironos, and V.L. Smirnov (16). Study on integrated optical Luneberg lenses prepared by a laser sputtering method. KE, no. 3, 1981, 650-653.

618. Chernenko, I.M. (0). Negative differential resistance in samples of vanadium phosphate glass processed by a laser beam. Deposit at VINITI, no. 464-81, 1981. (Cited in IVUZ Fiz, no. 3, 1981, 127)

619. Kolosovskiy, O.A. (0). Study on the marks of ball lightning on window glass. ZhTF, no. 4, 1981, 856-858.

620. Kortov, V.S., A.I. Slesarev, V.P. Shifrin, and A.A. Poplavskiy (7). Correlation between optical strength and outer electron emission parameters in K8 and GLS1 glass. OMP, no. 4, 1981, 49-51.

621. Manenkov, A.A., V.S. Nechitaylo, and A.S. Tsaprilov (1). Analyzing the mechanism in laser destruction of transparent polymers as a function of their viscoelastic properties. KE, no. 4, 1981, 838-843.

622. Nabatov, V.V., L.M. Belyayev, and N.N. Dymenko (13). Nature of color which appears during destruction of KCl, KBr and KI crystals by ruby laser radiation. FTT, no. 3, 1981, 933-935.

623. Yeron'ko, S.B., A.V. Suvorov, and A. Chmel' (0). Effect of silicate lattice dislocations in amorphous quartz on its optical resistance. FiKhOM, no. 2, 1981, 151-152.

624. Zverev, G.M., and L.A. Skvortsov (118). Characteristics of the destruction process for a dielectric coating during c-w laser operation. IAN Fiz, no. 3, 1981, 644-646.

3. Semiconductor Targets

625. Alaniya, N.M., A.B. Gerasimov, M.Sh. Dzhandiyeri, K.I. Kasparyan, and A.A. Tsertsvadze (40). Interaction mechanism of radiation defects with impurities in the process of radiation-stimulated self-diffusion. Sb 25, 570-573.

626. Dotsenko, V.I., and G.S. Yur'yev (0). Effect of laser radiation on the structure of noncrystalline arsenic sulfide. Avtometriya, no. 2, 1981, 118-120.

627. Fazekas, P. (NS). Laser-induced phase transition in amorphous $GeSe_2$ films. Kozponti fizikai kutato intezet, no. 75, 1980, 36 p. (RZhF, 4/81, 4Ye887)

628. Galyautdinov, M.F., Yu.K. Danileyko, M.M. Zaripov, A.A. Manenkov, A.V. Sidorin, I.B. Khaybullin, and Ye.I. Shtyrkov (1). Annealing of doped silicon layers with pulsed CO_2 laser radiation. DAN SSSR, v. 257, no. 5, 1981, 1110-1113.

629. Gotra, Z.Yu., and B.A. Goldovanskiy (0). Laser processing in the preparation of thin-film hybrid integrated circuit resistors. PSU, no. 3, 1981, 39-40.

630. Kachurin, G.A., and I.B. Khaybullin (10,38). Laser annealing of radiation defects. Sb 25, 164-174.

631. Kholodar', G.A., A.S. Matviychuk, and A.V. Ostrozhinskiy (51). Formation of point defects in silicon due to a laser pulse of subthreshold intensity. Sb 25, 549-553.

632. Kiyak, S.G., A.F. Semizorov, G.V. Plyatsko, I.I. Margolych, and V.V. Gorbunov (511). Properties of thin layers formed by melting the surface of CdSb crystals by laser radiation. UFZh, no. 4, 1981, 668-670.

633. Krynicki, J. (Polish), and J.C. Bourgoin (French). Electron traps in laser-annealed implanted silicon. Sb 25, 545-548.

634. Rozgonyi, G.A. (0). Laser annealing of semiconductors. Sb 28, 176-212. (RZhF, 3/81, 3Ye875)

635. Vakhabov, D.A., A.S. Zakirov, N.I. Ibragimov, M.K. Karabayev, S.S. Kakharov, A.T. Mamadalimov, and P.K. Khabibullayev (539). Feasibility of producing a p-n junction in silicon with millisecond laser pulses. FTP, no. 4, 1981, 797-799.

636. Yeliseyev, P.G., I.N. Zavestovskaya, I.A. Poluektov, and Yu.M. Popov (1). Theory of the subthreshold defect-producing mechanism in laser semiconductor crystals under intense pumping conditions. Sb 25, 519-522.

4. Miscellaneous Studies

637. Andronikashvili, E.L. (490). Physical properties of ionic crystals irradiated in the strained state. Sb 25, 175-189.

638. Baither, K., H.D. Geiler, G. Goetz, and K. Herre (East Germans). Defect structures after repeated laser annealing of thin amorphous layers in silicon. Sb 25, 531-535.

639. Blistanov, A.A., O.M. Kugayenko, M.M. Tagiyeva, M.P. Shaskol'skaya, M.D. Malinkovich, and S.F. Ulanov (0). Damage to doped crystals from the action of pulsed laser radiation. Sb 29, 252-254. (RZhMekh, 4/81, 4V1444)

640. Galustashvili, M.V. (0). Effect of the plasticity of NaCl crystals on their optical damage threshold. An GruzSSR. Soobshcheniye, v. 99, no. 2, 1980, 345-347.

641. Heinig, K.H., and H. Woittennek (East Germans). Laser-induced annealing and diffusion in ion-implanted silicon layers. Sb 25, 558-561.

642. Mirkin, L.I., and M.A. Yumasheva (0). Damage to materials from the action of laser pulses. Sb 9, 166-167. (RZhMekh, 3/81, 3V658)

643. Parfenov, B.A., and A.I. Timofeyev (0). Twenty-five laser units for all kinds of laser technology. Soviet Export, no. 2(131), 1981, 34-36.

644. Rysakov, V.M., and V.I. Korotkov (0). New type of damage to alkali-halide crystals from the action of laser radiation. Sb 9, 101-103. (RZhMekh, 4/81, 4V1445)

K. PLASMA GENERATION AND DIAGNOSTICS

645. Afanas'yev, Yu.A., and A.V. Rode (0). Conference on Laser Thermonuclear Fusion, Leipzig, 11-14 Dec 1979. KE, no. 3, 1981, 679-685.

646. Andreyev, N.Ye., O.M. Gradov (1), and D. Suender (East German). Nonstationary reflection and reemission of waves during the formation of electromagnetic structural resonances in a plasma. BP, no. 3, 1980, 201-213. (RZhRadiot, 3/81, 3Ye470)

647. Apostol, D., I. Apostol, E. Dojocaru, V. Draganescu, P.N. Mihailescu, I. Morjan, and V.I. Konov (NS). Interferometric investigation of shock waves induced by a TEA CO_2 laser-produced plasma in air in front of a solid target. Institutul de fizica atomica. Comitetul de stat pentru energia nucleara. Publicatie, no. LOP-8, 1979, 11 p. (RZhF, 3/81, 3G173)

648. Avrorin, Ye.N., A.I. Zuyev, N.G. Karlykhanov, V.A. Lykov, and V.Ye. Chernyakov (71). Requirements for targets and parameters of a laser device to obtain a thermonuclear flash. Institut prikladnoy matematiki AN SSSR. Preprint, no. 48, 1980, 39 p. (RZhF, 3/81, 3G321)

649. Babarskov, Ye.V., V.I. Derzhiyev, V.V. Yevstigneyev, and S.I. Yakovlenko (23). Analysis on using a CO_2 laser to form the active medium for a plasma laser at 15.5 nm. Institut atomnoy energii. Preprint, no. 3361/6, 1980, 16 p. (RZhF, 4/81, 4D1120)

650. Bayanov, V.I., V.A. Boyko, S.A. Mayorov, S.A. Pikuz, V.A. Serebryakov, I.Yu. Skobelev, A.Ya. Fayenov, A.I. Fedosimov, and K.A. Shilov (140). Self-absorption of x-ray spectral lines in a plasma heated by laser pulses of various duration. ZhTF P, no. 6, 1981, 355-359.

651. Bedilov, M.R., A.I. Ishmuratov, M.S. Sabitov, and P.K. Khabibullayev (85). Interaction between multicharged ions of a laser plasma and solids. Institut yadernoy fiziki AN UzSSR. Preprint, no. R-6-II, 1980, 15 p. (RZhF, 3/81, 3Ye913)

652. Bergel'son, V.I., and I.V. Nemchinov (276). Heating a dispersing plasma with continuous spectral radiation. Fizika plazmy, no. 2, 1981, 340-349.

653. Broytman, A.P., and O.A. Omarov (88). Laser mechanism of streamer propagation. ZhTF P, no. 7, 1981, 389-392.

654. Cojocaru, E., and N. Ionescu-Pallas (NS). Emission of neutrons from a hot deuterium-deuterium or deuterium-tritium plasma produced by a giant laser pulse. RRP, no. 6, 1980, 685-687. (RZhF, 3/81, 3G352)

655. Danilychev, V.A., V.D. Zvorykin, I.V. Kholin, and A.Yu. Chugunov (1). Study on intrinsic radiation from a plasma formed by the effect of 10.6 μm laser pulses in air. Fizika plazmy, no. 2, 1981, 350-364.

656. Dobkin, A.V., T.B. Malyavina, and I.V. Nemchinov (2). Quasi-stationary vaporization of a sphere by intense radiation in a continuous spectrum. DAN SSSR, v. 257, no. 6, 1981, 1346-1351.

657. Dubrovin, V.Yu., A.F. Kivshik, A.M. Yegorov, Ya.B. Faynberg, and L.I. Bolotin (82). Interaction of a high-power e-m wave with an inhomogeneous plasma. ZhTF, no. 3, 1981, 533-540.

658. Foerster, E., K. Goetz, and P. Zaumseil (NS). Double crystal diffractometry for the characterization of targets for laser fusion experiments. Kristall und Technik, no. 8, 1980, 937-945. (RZhF, 4/81, 4Ye761)

659. Gamaliy, B.G., V.A. Gasilov, I.G. Lebo, V.B. Rozanov, V.F. Tishkin, and A.P. Favorskiy (1). Spontaneous magnetic fields in a spherical plasma under bilateral laser irradiation. Fizicheskiy institut AN SSSR. Preprint, no. 122, 1980, 18 p. (RZhF, 3/81, 3G345)

660. Goetz, K., M.P. Kalashnikov, Yu.A. Mikhaylov, A.V. Rode, G.V. Sklizkov, S.I. Fedotov, E. Foerster, and P. Zaumseil (1). (Russ transliteration of German names: Getts, Ferster, Tsaumzayl'). Method of studying the absolute intensity of x-ray spectra from multicharged ions. KE, no. 3, 1981, 615-622.

661. Gryn', V.I. (337). Calculations for radiation transfer. Sb 22, 17-55.

662. Gurevich, A.V., and A.P. Meshcherkin (1). Kinetic breakthrough of an e-m barrier in laser plasma. KSpF, no. 4, 1981, 29-35.

663. Igonin, V.V. (0). Initiation of thermonuclear fusion by electron and ion beams with phase focusing. Sb 30, 142-165. (RZhF, 3/81, 3G355)

664. Kalmykov, Yu.K. (0). Possibility of fast removal of matter and energy from the chamber of a laser thermonuclear reactor with liquid shielding of the walls. Sb 31, 32-37. (RZhF, 4/81, 4G207)

665. Kamrukov, A.S., N.P. Kozlov, and Yu.S. Protasov (24). Experimental study on plasma focusing in erosion plasma accelerators. Part 4. Dynamics and radiation from localized plasmadynamic discharges. ZhTF, no. 4, 1981, 736-751.

666. Kirillov-Ugryumov, M.V., K.I. Kozlovskiy, V.K. Lyapidevskiy, V.A. Prorvich, and A.S. Tsybin (0). Using a laser neutron generator to study and calibrate detectors for pulsed neutron fluxes. PTE, no. 2, 1981, 71-73.

667. Knorre, E. (0). Ways to a man-made sun. Science in the USSR, no. 4, 1981, 19-25.

668. Koval'skiy, N.G. (0). Laser fusion. Itogi nauki i tekhniki. VINITI. Fizika plazmy, no. 1, part 1, 1980, 166-231. (RZhF, 3/81, 3G343)

669. Mazhukin, V.I., and B.N. Chetverushkin (71). Numerical modeling of the gasdynamic stage of development of a laser plasma under a high pressure of the surrounding medium. Institut prikladnoy matematiki AN SSSR. Preprint, no. 115, 1980, 18 p. (RZhMekh, 4/81, 4B307)

670. Mazhukin, V.I., A.A. Uglov, and B.N. Chetverushkin (71). Development of a low temperature laser plasma in a high pressure nitrogen environment. DAN SSSR, v. 257, no. 3, 1981, 584-589.

671. Nikolayev, F.A., V.V. Sorokin, and O.I. Stukov (1). Wideband time-of-flight neutron spectrometer for diagnostics of a laser plasma in the Del'fin device. Fizicheskiy institut AN SSSR. Preprint, no. 157, 1980, 31 p. (RZhF, 3/81, 3G525)

672. Onishchenko, I.N., G.V. Sotnikov, and Ya.B. Faynberg (0). Theory on breakdown during simultaneous interaction of e-m radiation and an e-beam with a neutral gas. ZhTF, no. 3, 1981, 665-666.

673. Panteleyev, V.V. (0). Spectral analysis using the intrinsic radiation from a laser plasma. Lit viz sb, no. 2, 1981, 107-108.

674. Ragozin, Ye.N., and P.V. Sasorov (1). Model of a stationary laser plasma corona, allowing for deflagration at a critical surface. ZhETF, v. 80, no. 4, 1981, 1371-1382.

675. Samarskiy, A.A., and A.A. Filyukov (71). Computational physics and laser fusion. Sb 32, 47-56.

676. Silin, V.P. (1). Heating and nonlinear interaction of radiation with a laser plasma. Fizicheskiy institut AN SSSR. Preprint, no. 165, 1980, 64 p. (RZhF, 3/81, 3G132)

677. Simakina, Ye.Yu. (1). Energy spectrum of ions accelerated by a ponderomotive force in a laser plasma. KSpF, no. 3, 1981, 40-45.

678. Veretennikov, V.A., V.A. Gribkov, A.V. Dubrovskiy, A.I. Isakov, N.V. Kalachev, T.A. Kozlova, V.M. Korzhavin, O.N. Krokhin, V.Ya. Nikulin, P.V. Silin, and O.G. Semenov (1). Experimental study on combined beam-laser interaction with a plasma. Fizicheskiy institut AN SSSR. Preprint, no. 131, 1980, 8 p. (RZhF, 3/81, 3G346)

679. Vinogradov, S.S., and V.P. Shestopalov (84). Resonant diffraction heating of spherically symmetric objects. DAN SSSR, v. 257, no. 2, 1981, 331-335.

680. Zozulya, A.A., and V.P. Silin (1). Raman scattering from parametric turbulence in a laser plasma at about one-fourth critical density. KSpF, no. 1, 1981, 49-54.

III. MONOGRAPHS, BOOKS, CONFERENCE PROCEEDINGS

681. Avdiyenko, K.I., S.V. Bogdanov, S.M. Arkhipov, B.I. Kidyarov, V.V. Lebedev, Yu.Ye. Nevskiy, V.I. Trunov, D.V. Sheloput, and R.M. Shklovskaya (0). Iodat litiya. Vyrashchivaniye kristallov, ikh svoystva i primeneniye (Lithium iodate. Growing the crystals and their properties and application). Novosibirsk, Nauka, 1980, 144 p. (RZhF, 3/81, 3Ye456)

682. Bashkin, A.S. (0). Lazery i khimiya (Lasers and chemistry). Series: Novoye v zhizni, nauke, tekhnike. Seriya Fizika, no. 10. Moskva, Znaniye, 1981, 64 p.

683. Bezopasnost' lazernykh ustanovok. Retrospektivnyy ukazatel' otechestvennykh i zarubezhnykh materialov 1973-1979 gg (Safety of laser devices. Retrospective index of domestic and foreign literature for 1973-1979). Compiled by V.D. Bardusova (610). VTsNII okhrany truda. Moskva, 1980, 64 p. (VKP, 8 Jan 1981, B247)

684. Dinamika izluchayushchego gaza (Dynamics of a radiating gas). Edited by Yu.D. Shmyglevskiy (337). Vychislitel'nyy tsentr AN SSSR. Moskva, 1981, 94 p.

685. Fiziko-tekhnicheskiy institut AN BSSR (Physicotechnical Institute of the Academy of Sciences of the Belorussian SSR) (183). Minsk, Nauka i tekhnika, 1981, 192 p.

686. Geda, N.F. (0). Izmereniye parametrov priborov optoelektroniki (Measuring the parameters of optoelectronics instruments). Series: Izmereniya v elektronike (Measuring in electronics). Moskva, Radio i svyaz', 1981, 368 p.

687. Geller, Yu.I., and A.K. Popov (210). Lazernoye indutsirovaniye nelineynykh rezonansov v sploshnykh spektrakh (Laser-induced nonlinear resonances in continuous spectra). Institut fiziki SOAN. Novosibirsk, Nauka, 1981, 160 p.

688. Ivanitskiy, G.R., and A.S. Kuniskiy (0). Issledovaniye mikrostruktury ob"yektov metodami kogerentnoy optiki (Studying the microstructure of objects by coherent optics methods). 2nd edition revised and enlarged. Moskva, Energiya, 1981, 168 p.

689. Izmereniye energeticheskikh parametrov i kharakteristik lazernogo izlucheniya (Measuring the energy parameters and characteristics of laser radiation). Edited by A.F. Kotyuk (0). Authors listed on inside page: B.Ya. Burdayev, R.A. Valitov, M.A. Vinokur, Yu.A. Kalinin, M.L. Kozachenko, N.G. Kokodiy, A.F. Kotyuk, L.S. Kremenchugskiy, A.P. Romashkov, V.S. Solov'yev, B.M. Stepanov, V.Ye. Stysin, S.V. Tikhomirov, A.K. Toropov, N.P. Khatyrev, and V.. Yakovlev (0). Series: Izmereniya v elektronike. Moskva, Radio i svyaz', 1981, 288 p.

690. Kalashnikov, N.P. (0). Kogerentnyye vzaimodeystviya zaryazhennykh chastits v monokristallakh (Coherent interactions of charged particles in single crystals). Moskva, Atomizdat, 1981, 224 p.

691. Kirillovskiy, V.K. (O). Primeneniye lazerov pri kontrole i attestatsii opticheskikh sistem (Using lasers to monitor and certify optical systems). Series: Progressivnaya tekhnologiya obrabotki konstruktsionnykh materialov i izdeliy (Progressive technology for processing construction materials and products). Leningrad, LDNTP, 1981, 28 p. (VKP, 29 April 1981, K43)

692. Lazernaya doplerovskaya anemometriya i yeye primeneniya. Vsesoyuznyy seminar, Novosibirsk, 8-10 oktyabrya 1980. Tezisy dokladov (Laser Doppler anemometry and its applications. All-Union seminar, Novosibirsk, 8-10 Oct 1980. Summaries of the reports). Edited by G.A. Kashcheyev (75). Institut avtomatiki i elektrometrii SOAN. Novosibirsk, 1980, 106 p. (RZhF, 3/81, 3D1365)

693. Lazernyye izmeritel'nyye sistemy (Laser measuring systems). Edited by D.P. Luk'yanov (O). Moskva, Radio i svyaz', 1981, 456 p.

694. Lazery s perestraivayemoy chastotoy (Frequency-tunable lasers). Institut teplofiziki SOAN. Sbornik nauchnykh trudov. Edited by V.P. Chebotayev (159). Novosibirsk, 1980, 125 p. (RZhF, 4/81, 4D1111)

695. Minayev, I.V., A.A. Mordovin, and A.G. Sheremet'yev (O). Lazernyye informatsionnyye sistemy kosmicheskikh apparatov (Laser information systems in spacecraft). Moskva, Mashinostroyeniye, 1981, 272 p.

696. Molebnyy, V.V. (O). Optiko-lokatsionnyye sistemy. Osnovy funktsional'nogo postroyeniya (Optical ranging systems. Fundamentals of functional construction). Moskva, Mashinostroyeniye, 1981, 184 p.

697. Nekotoryye problemy sovremennoy fiziki atmosfery (Various problems in contemporary atmospheric physics). Edited by A.M. Obukhov (64). Institut fiziki atmosfery AN SSSR. Moskva, Nauka, 1981, 176 p.

698. Opticheskiye metody obrabotki izobrazheniy i signalov (Optical methods for image and signal processing). Edited by V.A. Potekhin (4). Fiziko-tekhnicheskiy institut AN SSSR. Leningrad, 1981, 101 p.

699. Optika okeana i atmosfery (Optics of the ocean and atmosphere). Edited by K.S. Shifrin (69). Institut okeanologii AN SSSR. Moskva, Nauka, 1981, 232 p.

700. Osinskiy, V.I., V.I. Privalov, and O.Ya. Tikhonenko (0). Optoelektronnyye struktury na mnogokomponentnykh poluprovodnikakh (Optoelectronic structures using multicomponent semiconductors). Minsk, Nauka i tekhnika, 1981, 208 p.

701. Pisarev, N.M. (460). Golografiya, lazery i nelineynaya optika (Holography, lasers and nonlinear optics). Chelyabinskiy pedagogicheskiy institut. Chelyabinsk, 1980, 48 p. (VKP, 13 May 1981, P34)

702. Popov, V.G., and V.I. Gavrilenko (0). Metody lazernoy tekhnologii v integral'noy elektronike (Laser technology methods in integrated electronics). Series: Radioelektronika i vychislitel'naya tekhnika (Radioelectronics and computer technology). Kiyev, Znaniye UkrSSR, 1980, 24 p. (KL, 11/81, 10003)

703. Problemy mikrovolnovodnoy golografii (Problems in microwave holography). Moskovskiy institut radiotekhniki, elektroniki i avtomatiki. Mezhvuzovskiy sbornik nauchnykh trudov, no. 12. Edited by D.I. Mirovitskiy (161), et al. Moskva, 1979, 184 p. (KL, 10/81, 8757)

704. Radiatsionnaya fizika poluprovodnikov i rodstvennykh materialov. Mezhdunarodnaya konferentsiya, Tbilisi, 13-19 sentyabrya 1979 goda. Trudy (Radiation physics of semiconductors and related materials. International conference, Tbilisi, 13-19 September 1979. Proceedings). (Some of the papers are in English). Edited by G.P. Kekelidze and V.I. Shakhovtsov (40). Tbilisskiy universitet. Tbilisi, 1980, 890 p.

705. Shmelev, K.D., and G.V. Korolev (0). Istochniki elektropitaniya lazerov (Electric power supply sources for lasers). Moskva, Energoizdat, 1981, 169 p.

706. Simashkevich, A.V. (0). Geteroperekhody na osnove poluprovodnikovykh soyedineniy $A^{II}B^{VI}$ (Heterojunctions based on $A^{II}B^{VI}$ semiconductor compounds). Kishinev, Shtiintsa, 1980, 155 p. (RZhF, 3/81, 3Ye1389)

707. Sovremennaya kristallografiya. Tom chetvertyy. Fizicheskiye svoystva kristallov (Modern crystallography. Volume 4. Physical properties of crystals). Authors listed on title page: L.A. Shuvalov, A.A. Khrusovskaya, I.S. Zheludev, A.V. Zalesskiy, S.A. Semiletov, B.N. Grechushnikov, I.G. Chistyakov, and S.A. Pikin (13). Moskva, Nauka, 1981, 496 p.

708. Svetovyye polya v okeane (Light fields in the ocean). Edited by V.N. Pelevin and M.V. Kozlyaninov (69). Institut okeanologii AN SSSR. Moskva, 1980, 258 p. (RZhGeofiz, 3/81, 3V158)

709. Torkatyuk, V.I., V.P. Gordiyenko, and V.P. Titar' (0). Lazernaya tekhnika v stroitel'stve (Laser technology in construction). Series: Biblioteka stroitelya. Tekhnicheskiy progress v stroitel'stve (Library of construction. Technical progress in construction). Kiyev, Budivel'nyk, 1981, 61 p.

710. Vaysfel'd, M.P. V.I. Voronov, B.V. Orlov, et al. (216). Proyektirovaniye opticheskikh kvantovykh generatorov (Laser designing). Kazanskiy aviatsionnyy institut. Kazan', 1980, 91 p. (VKP, 30 June 1981, P791)

711. Zastrogin, Yu.F. (0). Kontrol' parametrov dvizheniya s ispol'zovaniyem lazerov. Metody i sredstva (Laser monitoring of the parameters of motion. Methods and means). Series: Biblioteka priborostroitelya (Library of instrument manufacture). Moskva, Mashinostroyeniye, 1981, 176 p.

712. Zhokhov, V.P., A.A. Komarova, L.I. Maksimova, V.R. Muratov, Yu.P. Pal'tsev, and A.I. Semenov (0). Gigiyena truda i profilaktika profpatologii pri rabote s lazerami (Labor hygiene and prophylaxis of occupational pathology in work with lasers). Moskva, Meditsina, 1980, 208 p. (RZhRadiot, 4/81, 4Ye3)

IV. SOURCE ABBREVIATIONS

	(CIRC Codens)	
APP	(ATPLB)	Acta physica polonica
BIPG	(BIPED)	Buletinul Institutului politehnic Gheorghe Gheorghiu-Dej Bucuresti
BP	(BPPHA)	Beitraege aus der plasmaphysik
BWAT	(BWATA)	Biuletyn Wojskowej akademii technicznej J. Dabrowskiego
DAN B	(DBLRA)	Akademiya nauk Belorusskoy SSR. Doklady
DAN SSSR	(DANKA)	Akademiya nauk SSSR. Doklady
DAN Uz	(DANUA)	Akademiya nauk Uzbekskoy SSR. Doklady
ETP	(EXPPA)	Experimentelle Technik der Physik
FAiO	(IFAOA)	Akademiya nauk SSSR. Izvestiya. Fizika atmosfery i okeana
FiKhOM	(FKOMA)	Fizika i khimiya obrabotka materialov
FiKhS	(FKSTD)	Fizika i khimiya stekla
FTP	(FTPPA)	Fizika i tekhnika poluprovodnikov
FTT	(FTVTA)	Fizika tverdogo tela
IAN Arm	(IAAFA)	Akademiya nauk Armyanskoy SSR. Izvestiya. Fizika
IAN B	(VABFA)	Akademiya nauk Belorusskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk
IAN Est	(ETFMB)	Akademiya nauk Estonskoy SSR. Izvestiya. Fizika, matematika
IAN Fiz	(IANFA)	Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya
IAN Uz	(IUZFA)	Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk
I-FZh	(INFZA)	Inzhenerno-fizicheskiy zhurnal
IT	(IZTEA)	Izmeritel'naya tekhnika
IVUZ Fiz	(IVUFA)	Izvestiya vysshikh uchebnykh zavedeniy. Fizika
IVUZ Priboro	(IVUBA)	Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye

IVUZ Radioelektr	(IVUZB)	Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika
IVUZ Radiofiz	(IVYRA)	Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika
JMO	(JMKOA)	Jemna mechanika a optika
KE	(KVEKA)	Kvantovaya elektronika
KhVE	(KHVKA)	Khimiya vysokikh energiy
KL	(KNLTA)	Knizhnaya letopis'
Kristal	(KRISA)	Kristallografiya
KSpF	(KRSFA)	Kratkiye soobshcheniya po fizike
Lit fiz sb	(LFSBA)	Litovskiy fizicheskiy sbornik
MZhiG	(IMZGA)	Akademiya nauk SSSR. Izvestiya. Mekhaniki zhidkosti i gaza
NM	(IVNMA)	Akademiya nauk SSSR. Izvestiya. Neorganicheskiye materialy
OiS	(OPSPA)	Optika i spektroskopiya
OMP	(OPMPA)	Optiko-mekhanicheskaya promyshlennost'
Opt app	(OPAPB)	Optica applicata [Poland]
Otkr izobr	(OIPOV)	Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki
PSS	(PSSAB) (PSSBB)	Physica Status Solidi (A). Applied Research (B). Basic Research
PSU	(PRSUB)	Pribory i sistemy upravleniya
PTE	(PRTEA)	Pribory i tekhnika eksperimenta
RiE	(RAELA)	Radiotekhnika i elektronika
RRP	(RRPZA)	Revue roumaine de physique
RZhF	(RZFZA)	Referativnyy zhurnal. Fizika
RZhGeofiz	(GZGFA)	Referativnyy zhurnal. Geofizika
RzhMekh	(RZMKA)	Referativnyy zhurnal. Mekhanika
RZhRadiot	(RZRAB)	Referativnyy zhurnal. Radiotekhnika
Sbl	Sbornik	Lazernyye metody i sredstva izmereniya kharakteristik i spektrov veshchestv. VNIFTRI. Moskva, 1980.

Sb2 Sovremennaya kristallografiya. Vol. 4. Moskva, Nauka, 1981.

Sb3 Lazery s perestraivayemoy chastotoy. Institut teplofiziki SOAN. Sbornik nauchnykh trudov. Novosibirsk, 1980.

Sb4 Mezhdunarodnyy kongress po vysokoskorostnoy fotografii i fotonike. 14th. Moskva, 19-24 Oct 1980. Tezisy dokladov. Place of publication not given, 1980.

Sb5 Analele Universitatii Bucuresti. Fizica, v. 29, 1980.

Sb6 Sistemy i sredstva obrabotki, peredachi i priyema informatsii. Voronezh, 1980.

Sb7 Kvantovaya elektronika, no. 20, Kiyev, Naukova dumka, 1981.

Sb8 Povysheniye effektivnosti i kachestva ustroystv elektronnoy tekhniki. Tomsk, 1980.

Sb9 Fizika razrusheniya. Vsesoyuznaya konferentsiya. 4th, Kiyev, 1980. Tezisy dokladov. Part 1. Kiyev, 1980.

Sb10 Mezhvuzovskiy sbornik nauchnykh trudov Moskovskogo instituta radiotekhniki, elektroniki i avtomatiki, no. 12, 1979.

Sb11 Lazernyye izmeritel'nyye sistemy. Moskva, Radio i svyaz', 1981.

Sb12 Issledovaniya po optike, khimicheskoy i yadernoy fizike. Saratovskiy GU. Saratov, 1980.

Sb13 Teoriya kooperativnykh kogerentnykh effektov v izluchenii. Leningrad, 1980.

Sb14 Fiziko-matematicheskoye modelirovaniye tekhnologicheskikh protsessov Noril'skogo gorno-metallurgicheskogo promyshlennogo kompleksa. Noril'sk, 1979.

Sb15 Nekotoryye problemy sovremennoy fiziki atmosfery. Institut fiziki atmosfery AN SSSR. Moskva, Nauka, 1981.

Sb16 Fizicheskiye aspekty distantsionnogo zondirovaniya sistemy "okean-atmosfera". Institut okeanologii AN SSSR. Moskva, Nauka, 1981.

Sb17 Svetovyye polya v okeane. Institut okeanologii AN SSSR. Moskva, 1980.

Sb18 Kompleksnyye gidrofizicheskiye i gidrokhimicheskiye issledovaniya Chernogo morya. Sevastopol', 1980.

Sb19 Optika okeana i atmosfery. Institut okeanologii AN SSSR. Moskva, Nauka, 1981.

Sb20		Opticheskiye metody obrabotki izobrazheniy i signalov. Fiziko-tekhnicheskiy institut AN SSSR. Leningrad, 1981.
Sb21		Distantsionnyye i informatsionno-izmeritel'nyye sistemy. Moskva, 1980.
Sb22		Dinamika izluchayushchego gaza. Vychislitel'nyy tsentr AN SSSR. Moskva, 1981.
Sb23		Nauchno-tekhnicheskaya konferentsiya po informatsionnoy akustike. 5th. Trudy. Moskva, 1980.
Sb24		Mekhanika deformiruyemogo tela i raschet transportnykh sooruzheniya. Novosibirsk, 1980.
Sb25		Radiatsionnaya fizika poluprovodnikov i rodstvennykh materialov. Mezhdunarodnaya konferentsiya, Tbilisi, 13-19 Sep 1979. Tbilisskiy universitet. Tbilisi, 1980.
Sb26		Segnetoelektriki i p"yezoelektriki. Kalinin, 1980.
Sb27		Diffuziya, fazovyye prevrashcheniya, mekhanicheskiye svoystva metallov i splavov, no. 4, Moskva, 1980.
Sb28		Mezhdunarodnaya shkola spetsialistov po rostu kristallov. 4th. Suzdal', 1980. Konspekt lektsiy. Part 2. Moskva, 1980.
Sb29		Fizika razrusheniya. Vsesoyuznaya konferentsiya. 4th. Kiyev, 1980. Tezisy dokladov. Part 2. Kiyev, 1980.
Sb30		Voprosy teoreticheskoy i yadernoy fiziki, no. 7, Saratov, 1980.
Sb31		Voprosy atomnoy nauki i tekhniki. Termoyadernyy sintez, no. 2/6, Moskva, 1980.
Sb32		Budushcheye nauki. Mezhdunarodnyy yezhegodnik, no. 1, Moskva, Znaniye, 1978.
SCF	(SCEFA)	Studii si cercetari de fizica
TiEKh	(TEKHA)	Teoreticheskaya i eksperimental'naya khimiya
TKiT	(TKTEA)	Tekhnika kino i televedeniya
Tr1	Trudy	Glavnaya geofizicheskaya observatoriya. Trudy, no. 453, 1981.
Tr2		Nikolayevskiy korablestroitel'nyy institut. Trudy, no. 151, 1979.
TVT	(TVTYA)	Teplofizika vysokikh temperatur
UFN	(UFNAA)	Uspekhi fizicheskikh nauk
UFZh	(UFIZA)	Ukrainskiy fizicheskiy zhurnal

VKFLFK	(VKFLA)	Voprosy kurortologii, fizioterapii i lechebnoy fizicheskoy kul'tury
VKP	(-----)	Vsesoyuznaya knizhnaya polata
VMU	(VMUFA)	Moskovskiy universitet. Vestnik. Fizika, astronomiya
ZhETF	(ZEIFA)	Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhETF P	(ZFPRA)	Pis'ma v Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhFKh	(ZFKHA)	Zhurnal fizicheskoy khimii
ZhNiPFiK	(ZNPFA)	Zhurnal nauchnoy i prikladnoy fotografii i kinematografii
ZhNKh	(ZNOKA)	Zhurnal neorganicheskoy khimii
ZhPMTF	(ZPMFA)	Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki
ZhPS	(ZPSBA)	Zhurnal prikladnoy spektroskopii
ZhTF	(ZTEFA)	Zhurnal tekhnicheskoy fiziki
ZhTF P	(PZTFD)	Pis'ma v Zhurnal tekhnicheskoy fiziki

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22. Institute of Technical Thermophysics, AN UkrSSR (Institut tekhnicheskoy teplofiziki AN UkrSSR).
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